ANNUAL REPORT

ON THE

Health of the County Borough of Cardiff,

FOR THE YEAR 1898

BY

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1899.

COUNTY BOROUGH OF CARDIFF.

Health and Port Sanitary Committee.

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Cardiff Urban Sanitary Authority.

MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

Medical Officer of Health.
EDWARD WALFORD, M.D., D.P.H.

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Inspector under Shop Hours Act and Inspector of Workshops.
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Disinfector.
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W. H. DAVIES.

Junior Clerk.
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* Cert. San. Inst.

CARDIFF URBAN SANITARY AUTHORITY.

TOWN HALL, CARDIFF.

April, 1899.

TO THE CHAIRMAN AND MEMBERS OF THE CARDIFF URBAN SANITARY AUTHORITY.

GENTLEMEN,

I have the honour of submitting to you my Report for the year 1898, made in accordance with the Local Government Board's Order of March, 1891, which specifies the information to be contained in the Annual Reports of Medical Officers of Health.

A Memorandum upon this subject recently issued by the Board's Medical Officer directs that "the Report should be chiefly concerned with the conditions affecting health in the district "and with the means of improving those conditions. That it should consider these subjects with "reference to the past and future as well as to the particular year. That the account of the general "sanitary state of the district should, while marking the point that has been reached in the sanitary "condition and administration of the district, indicate directions for further consideration and "action; and that the sanitary history of the year under review should include a record alike of "the proceedings of the Medical Officer of Health himself and of the proceedings taken under his "direction."

The Municipal Borough of Cardiff originally comprised the parishes of St. John the Baptist and St. Mary the Virgin. Under the provisions of the Cardiff Improvement Act of 1875 the boundary of the Borough was extended so as to include the parish of Roath and that part of the parish of Llandaff known as Canton.

By an Order of the Privy Council, dated 21st October, 1890, the Borough was divided into ten Wards. The following tables taken from the Census Report of 1891 give the distribution of the population in the Municipal Wards and civil parishes :—

TABLE I.—Distribution of the population in the Municipal Wards of the Borough (Census 1891):—

MUNICIPAL BOROUGH OF CARDIFF.

Borough and Wards.	Houses.			Population (Census 1891).		
	Inhabited.	Uninhabited.	Building.	Persons.	Males.	Females.
Ward—Adamsdown ...	2,132	83	...	16,234	9,398	6 836
,, Canton ...	2,354	96	6	13,166	6,500	6,666
,, Cathays ...	2,408	25	12	14,523	7,404	7,119
,, Central ...	2,008	247	9	12,348	6,105	6,243
,, Grangetown ...	1,809	45	97	11,734	5,975	5,759
,, Park ...	2,587	110	109	14,289	6,754	7,535
,, Riverside ...	2,373	77	20	14,897	7,359	7,538
,, Roath ...	1,949	162	31	12,200	5,886	6,314
,, South ...	1,554	156	13	10,719	5,824	4,895
,, Splott ...	1,302	85	35	8,805	4,540	4,265
Total ...	20,476	1,086	332	128,915	65,745	63,170

According to the Census of April, 1891, the Population and the Number of Houses in each Parish were as follows:—

TABLE II.

Borough and Constituent Parishes.	Houses.			Population, 1891.			Population, 1881.
	Inhabited.	Uninhabited.	Building.	Males.	Females.	Persons.	
Canton	5,484	180	85	16,425	16,380	32,805	14,797
Roath	6,552	367	175	19,884	19,773	39,657	23,096
St. John	4,386	218	29	13,060	14,098	27,158	16,614
St. Mary	4,054	321	43	16,376	12,919	29,295	28,254
County Borough of Cardiff	20,476	1,086	332	65,745	63,170	128,915	82,761

VITAL STATISTICS, 1898.

POPULATION.—The population of the Borough of Cardiff, as estimated by the Registrar General, on the basis of the census enumeration, was, for the middle of 1898, 177,770.

According to the census of 1891 the population of the Borough was at that time 128,915, being an increase of 46,154, or 55 per cent. since the census of 1881.

The estimates of the population made annually since 1891 are based on the assumption that the increase has gone on at exactly the same rate that it did during the intercensal period of 1881—1891. The birth-rates and death-rates, calculated on these estimates of population, are therefore only approximately correct and any error which may exist is necessarily increased in proportion to the length of time which has elapsed since the last census.

But with the view of ascertaining as far as possible the extent of the error, if any, in the official estimate, an inspection of the district is made in the month of June in each year, in order to ascertain the number of inhabited houses in each Ward in the Borough. It is then possible to make an estimate of the population by multiplying this number by the average number of inmates in each house at the last census. It was shown in my last Annual Report that an estimate obtained in this way gave a population for the year 1897 of 2,050 above the Registrar General's estimate, and assuming this higher estimate to be correct, that the recorded death-rates and other rates as given in that report would be slightly higher than the true rates.

I have however to point out a possible error in the other direction which may have affected, although only in a very slight degree, the rates of mortality in the report for the year 1898. On referring to Table IV. it will be seen that the estimate of the population obtained in this way is 1,386 below that of the Registrar General, and if taken as the correct figure, the rates of mortality as given in this report and calculated on the larger population are slightly lower than the true rates.

The extent of the influence of this difference in the population is however so very slight that it need hardly be taken into consideration. For instance, the death-rate, if calculated on a population of 177,770 (the Registrar General's estimate) is 14·77 per 1,000 for the year 1898 as compared with 14·89 per 1,000, the rate calculated on the smaller population of 176,384. The table shows that the proportion of vacant houses in the Borough in this year was rather above the average, a result in all probability due to a temporary cause, namely, the interference with trade consequent upon the prolonged strike of the colliers in the South Wales Coal-fields, and not one likely to influence permanently the ordinary rate of increase in the population.

It may be assumed therefore that the increase in the population does on the whole correspond very closely with the estimate of the Registrar General.

The density of population as measured by the number of persons per acre is given in the following table :—

TABLE III.

COUNTY BOROUGH OF CARDIFF.

DENSITY OF POPULATION.

Year.	Persons per Acre.
1889	15·3
1890	15·9
1891	17·7
1892	18·5
1893	23·5
1894	24·6
1895	25·7
1896	26·8
1897	28·1
1898	29·3

TABLE IV.

COUNTY BOROUGH OF CARDIFF.

POPULATION OF WARDS, JUNE, 1898.

Wards.	Area in Acres.	Houses Inhabited.	Houses Vacant.	Houses Building.	Total Houses	Population 1898.	Persons per Acre.
Central ...	473	2,060	446	61	2,567	12,957	27·3
South ...	519	1,805	165	19	1,989	11,353	21·8
Cathays ...	369	2,747	102	251	3,100	17,278	46·8
Park ...	533	4,099	136	5	4,240	25,782	48·3
*Adamsdown	1,570	2,218	50	—	2,268	13,951	8·8
Riverside ...	313	2,973	140	35	3,148	18,700	59·7
Canton ...	449	3,297	297	172	3,766	20,738	46·1
Roath ...	766	2,360	105	91	2,556	14,844	19·3
Grangetown	1,905	3,178	213	41	3,432	19,989	10·4
Splott ...	1,454	2,648	109	29	2,786	16,655	11·4
Total ...	8,351	27,385	1,763	704	29,852	172,247	29·3
				Floating Population		2,523	
				Institutions ...		1,610	
				Total Population ...		176,380	
				Registrar General's Estimate ...		177,770	

* In addition to the above the water area of the Docks is 108 acres, and included in this total of 8,459 acres are 2,600 acres of water and foreshore.

INSTITUTIONS (CENSUS, 1891).

Barracks	278	Nazareth House ...	130
Workhouse	713	Flat-holm Barracks ...	9
Infirmary	143	"Hamadryad" Hospital Ship	56
H. M. Prison	201	"Havannah" Industrial School	80
			1,610

TABLE V.—Births, Deaths, and Natural Increase of Population for Fifty-four years 1845—1898.

Year.	Population.	Births.	Deaths.	Excess of Deaths over Births.	Excess of Births over Deaths.
1845	13,385	320	324	4	...
1846	14,212	381	321	...	60
1847	15,039	331	484	153	...
1848	15,866	428	579	151	...
1849	16,693	466	864	395	...
1850	17,520	504	485	...	19
1851	18,354	575	585	...	50
1852	19,724	696	620	...	76
1853	21,094	865	644	...	221
1854	22,464	950	925	...	25
1855	23,834	1,079	641	...	438
1856	25,204	1,227	772	...	455
1857	26,574	1,367	883	...	484
1858	27,944	1,356	753	...	603
1859	29,314	1,336	826	...	510
1860	30,684	1,346	662	...	584
1861	32,054	1,223	837	...	386
1862	32,804	1,267	695	...	373
1863	33,552	1,302	862	...	440
1864	34,300	1,369	932	...	467
1865	35,048	1,382	867	...	515
1866	35,796	1,331	882	...	449
1867	36,544	1,397	873	...	524
1868	37,292	1,387	843	...	544
1869	38,640	1,414	1,005	...	409
1870	38,788	1,406	903	...	503
1871	39,356	1,391	891	...	500
1872	40,284	1,358	916	...	442
1873	41,032	1,430	995	...	435
1874	41,780	1,550	885	...	665
*1875	69,850	2,716	1,547	...	1,169
1876	72,438	2,707	1,455	...	1,252
1877	75,026	2,772	1,475	...	1,297
1878	77,614	2,795	1,468	...	1,327
1879	80,202	2,969	1,428	...	1,541
1880	82,790	2,893	1,634	...	1,295
1881	85,378	3,145	1,556	...	1,598
1882	88,603	3,399	1,724	...	1,675
1883	91,204	3,526	1,807	...	1,719
1884	93,468	3,920	2,250	...	1,670
1885	97,034	4,164	2,487	...	1,683
1886	100,736	4,270	2,269	...	2,001
1887	104,580	4,277	2,280	...	1,997
1888	108,570	4,409	2,212	...	2,197
1889	112,712	4,361	2,190	...	2,172
1890	117,012	4,600	2,469	...	2,131
1891	130,283	4,739	2,873	...	1,866
1892	136,181	4,776	2,560	...	2,216
1893	142,435	5,110	2,794	...	2,316
1894	148,890	5,100	2,415	...	2,685
1895	155,637	5,321	2,840	...	2,481
1896	162,690	5,591	2,795	...	2,796
1897	170,063	5,279	2,534	...	2,745
1898	177,770	5,520	2,627	...	2,893

* Canton and Roath taken into the Borough.

TABLE VI.

BOROUGH OF CARDIFF.

Population at different Ages, estimated to the middle of 1898.

Age.	Males.	Females.	Persons.
0—5	12,013	11,797	23,810
5—10	10,409	10,538	20,947
10—15	9,248	9,387	18,635
15—20	8,678	8,599	17,277
20—25	9,187	9,181	18,368
25—30	8,856	8,274	17,130
30—35	7,688	6,687	14,375
35—40	6,431	5,482	11,913
40—45	5,143	4,409	9,552
45—50	4,152	3,560	7,712
50—55	3,065	2,921	5,986
55—60	2,099	1,982	4,081
60—65	1,670	1,837	3,507
65—70	979	1,074	2,053
70—75	596	768	1,364
75—80	283	375	658
80— upwards.	163	239	402
All Ages.	90,660	87,110	177,770

TABLE VII.

MARRIAGES.—The total number of Marriages registered during the year 1898 was 1,525; corresponding to a rate of 17·2 persons married per 1,000 persons living.

A return of the number of Marriages in the Borough of Cardiff, together with the rate of persons married per 1,000 of the population, is given below:—

Year.	No. of Marriages.	Rate per 1,000 Persons living.
1886	1,244	24·6
1887	1,322	25·2
1888	1,259	23·1
1889	1,431	25·3
1890	1,440	24·6
1891	1,051	17·6
1892	1,526	22·4
1893	1,447	20·3
1894	1,480	19·8
1895	1,271	16·3
1896	1,721	21·1
1897	1,687	19·8
1898	1,525	17·2

BIRTHS.—During the year 1898 the Births registered in the Borough were 5,520, of these 2,723 were males and 2,797 females.

The number corresponded to an annual birth-rate of 31·0 per 1,000, compared with 30·7 in 1897, and with 30·3 per 1,000 the average rate in the large towns.

In London the birth-rate last year was equal to 29·5 per 1,000, while it ranged from 22·5 in Huddersfield, 22·9 in Halifax, 24·0 in Bradford, and 24·8 in Brighton, to 34·7 in Salford, 35·2 in Liverpool, 35·4 in Sunderland, 35·5 in Gateshead, and 35·8 in Wolverhampton.

TABLE VIII. gives the number of legitimate and illegitimate births, male and female, and the number of deaths amongst children under one year of age in each Ward:—

TABLE VIII.

WARDS.	Legitimate.		Illegitimate.		Total.		TOTAL.	Deaths under One Year.
	M.	F.	M.	F.	M.	F.		
Central Ward ...	132	141	1	7	133	148	281	48
South ,, ...	138	148	1	2	139	150	289	49
Cathays ,, ...	283	289	4	6	287	295	582	94
Park ,, ...	348	350	4	5	352	355	707	100
Adamsdown ,, ...	220	229	7	2	227	231	458	88
Riverside ,, ...	179	209	1	3	180	212	392	73
Canton ,, ...	380	367	4	1	384	368	752	111
Roath ,, ...	245	247	2	2	247	249	496	81
Grangetown ,, ...	431	429	4	1	435	430	865	106
Splott ,, ...	298	314	1	5	299	319	618	107
Union Workhouse ...	7	7	33	33	40	40	80	13
TOTAL	2,661	2,730	62	67	2,723	2,797	5,520	870

TABLE IX.—Annual Birth-rate in Cardiff compared with that in the large towns during the ten years ending 1898.

33 LARGE TOWNS.	Annual Birth-rate per 1,000 living.									
	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
London ...	30·3	29·1	31·8	30·9	31·0	30·1	30·5	30·2	30·0	29·5
West Ham ...	...	...	...	37·0	35·6	34·0	34·3	32·6	32·2	30·6
Croydon ...	...	...	...	26·5	26·2	25·0	25·3	25·1	25·0	25·4
Brighton ...	24·4	23·2	26·3	25·5	25·4	25·8	25·6	24·7	24·7	24·8
Portsmouth ...	35·1	33·6	30·1	28·0	28·2	27·6	27·9	27·6	26·9	26·7
Plymouth ...	31·9	31·2	29·8	29·1	29·9	28·8	28·7	28·8	28·5	29·7
Bristol ...	29·2	28·1	30·4	29·6	30·4	28·2	28·9	27·6	27·8	28·6
Swansea ...	...	...	...	35·2	35·1	32·3	33·4	30·5	29·4	28·9
Wolverhampton ...	32·4	32·3	34·2	33·7	34·5	34·1	35·4	34·4	35·1	35·8
Birmingham ...	30·9	30·1	34·2	33·3	32·7	31·7	32·4	32·6	33·3	34·0
Norwich ...	33·8	33·0	31·9	30·5	30·9	29·8	31·8	30·8	30·5	29·9
Leicester ...	31·7	30·5	33·9	32·2	32·6	31·5	30·8	30·8	30·6	29·6
Nottingham ...	28·0	24·9	29·9	29·4	30·2	28·6	29·7	28·9	28·9	28·9
Derby ...	28·5	26·9	30·6	31·1	32·2	29·3	29·1	28·0	27·1	27·4
Birkenhead ...	31·2	31·4	33·0	33·4	33·1	30·6	30·7	31·7	31·6	30·4
Liverpool ...	29·2	28·8	34·6	34·7	36·0	35·4	36·9	34·9	35·3	35·2
Bolton ...	32·8	31·4	34·1	32·7	33·1	31·5	32·9	31·3	32·5	30·9
Manchester ...	35·3	34·9	34·1	33·7	33·6	32·0	33·7	33·0	33·2	32·7
Salford ...	29·9	28·8	36·4	35·9	34·7	34·3	35·9	34·9	35·1	34·7
Oldham ...	28·4	27·0	31·1	29·1	28·6	27·2	27·5	27·2	26·1	25·3
Burnley ...	...	...	...	34·2	33·9	32·2	32·1	31·0	29·8	27·1
Blackburn ...	34·3	32·5	33·9	31·9	30·9	28·8	30·6	27·7	27·7	27·1
Preston ...	38·1	36·1	36·0	34·3	35·1	32·1	33·4	32·6	31·9	31·0
Huddersfield ...	24·5	22·6	24·4	23·0	23·8	20·2	21·7	20·5	23·4	22·5
Halifax ...	28·0	27·9	26·2	25·9	24·6	23·1	23·4	24·3	22·5	22·9
Bradford ...	26·7	25·6	28·7	27·2	27·7	26·7	26·1	25·5	24·6	24·0
Leeds ...	32·8	33·4	34·1	33·5	32·4	32·2	31·6	30·7	31·6	31·2
Sheffield ...	33·2	32·4	36·6	35·3	34·8	33·4	34·9	34·0	34·4	33·9
Hull ...	32·6	31·3	34·6	35·0	34·2	32·4	34·2	31·9	33·3	33·4
Sunderland ...	36·0	35·5	37·8	37·1	35·6	35·1	35·1	34·2	34·6	35·4
Gateshead ...	...	...	...	35·3	36·5	34·2	34·6	35·8	35·8	35·5
Newcastle-on-Tyne ...	38·2	39·8	35·8	34·3	33·7	31·0	31·2	31·1	31·3	31·7
Cardiff ...	**38·6**	**39·3**	**36·5**	**35·3**	**36·0**	**34·4**	**34·1**	**34·3**	**31·1**	**31·1**
Large Towns ...	31·0	30·0	32·6	31·9	31·9	30·7	31·3	30·7	30·7	30·3

DEATHS.—During the year 2,527 Deaths were registered in the Borough, of these 1,341 were males and 1,286 females.

The deaths were equal to a rate of 14·7 per 1,000, as compared with 18·4 the average rate in the ten preceding years. The "natural increase" of the population, or the excess of births over deaths, amounted to 2,893.

In the Annual Report for the year 1897, I had to chronicle the lowest death-rate on record since the first publication, in 1845, of Mortality Statistics of your Medical Officer of Health. I have again the satisfaction of reporting an exceedingly low death-rate for the year 1898, a rate lower even than that of the preceding year, and considerably below the average death-rate of the 33 large towns of England and Wales for the same period. In the Annual Summary of the Registrar General for the year 1898, the rates of mortality in these large towns are given, from which it will be seen that the death-rate for Cardiff was (as in the year 1897), with the exception of Croydon, the lowest amongst these towns. The average death-rate in the 33 large towns was 19·0 per 1,000, ranging from 13·9 in Croydon, 14·7 in Cardiff, 15·4 in West Ham, and 15·9 in Huddersfield, to 21·4 in Newcastle-upon-Tyne, 21·9 in Manchester, 22·6 in Sunderland, 22·7 in Salford, and 24·0 in Liverpool.

The number of deaths registered in Cardiff during the first quarter of the year at all ages and from all causes was 774, corresponding to an annual death-rate of 17·5 per 1,000 persons living, as compared with 18·8 the average rate in the first quarter of the five preceding years, and with 20·6 the rate in the 33 large towns. The death-rates in the large towns ranged from 15·7 in Croydon, 16·3 in West Ham, 17·1 in Burnley, 17·2 in Birkenhead, and 17·3 in Huddersfield, to 21·4 in Plymouth, 21·9 in Birmingham, 22·4 in Swansea, 22·5 in Wolverhampton, and 23·5 in Liverpool. The deaths from the chief zymotic diseases during the first quarter of the year in Cardiff were 98 in number, which corresponded to an annual death-rate of 2·21 per 1,000 living, as compared with 1·97 the average rate in the first quarter of the five preceding years, and with 2·38 the average rate in the 33 large towns. Diphtheria and Measles were the most prevalent of the acute specific diseases during the first quarter of the year. Diphtheria caused the highest fatality, the deaths being equal to an annual death-rate of 1·17 per 1,000, which was 0·67 above the average in the five preceding first quarters. In this quarter the diphtheria death-rate in the large towns averaged 0·33 per 1,000. Measles caused 27 deaths, which was equal to a death-rate of 0·60 per 1,000, as compared with 0·98 the average rate in the large towns.

During the second quarter the total number of deaths registered in the Borough was 557, corresponding to an annual death-rate of 12·6 per 1,000 persons living, as compared with 16·0 the average rate in the second quarter of the five preceding years, and with 17·1 the average rate in the 33 large towns.

The death-rates in the large towns ranged from 11·7 in Croydon, 12·1 in West Ham, 12·6 in Cardiff, 12·7 in Brighton, and 14·7 in Burnley, to 20·0 in Manchester, 20·1 in Gateshead, 22·2 in Sunderland, 22·6 in Newcastle-upon-Tyne. The deaths from the chief zymotic diseases during the second quarter numbered 71, being equal to an annual death-rate of 1·61 per 1,000, as compared with 2·48 the average in the second quarter of the five preceding years, and with 1·88 the average rate in the large towns. Of the 71 deaths ascribed to these diseases, 37 were due to diphtheria, which again caused the highest fatality amongst infectious diseases. The deaths from diphtheria were equal to an annual rate of 0·83 per 1,000, as compared with 0·50 the average rate in the five preceding quarters, and with 0·24 the average rate in the large towns.

The number of deaths registered during the third quarter of the year was 703, corresponding to an annual death-rate of 15·9 per 1,000, as compared with 16·8 the average rate in the third quarters of the five preceding years, and with 20·3 the rate in the 33 large towns. The death rates in these towns ranged from 15·6 in Huddersfield, 15·9 in Cardiff, 16·0 in Swansea, 16·1 in Oldham, and 16·2 in Croydon, to 24·1 in Manchester, 25·1 in Wolverhampton, 26·3 in Liverpool, 27·5 in Sunderland, and 28·7 in Salford.

The deaths from the chief zymotic diseases amounted to 152, and corresponded to an annual death-rate of 3·44 per 1,000, as compared with 3·50 the average rate in the third quarters of the five preceding years, and with 4·94 the average rate in the 33 large towns. Of the 152 deaths from zymotic diseases, 115 were due to diarrhœa, which in this quarter is always peculiarly fatal amongst children, 104 of the deaths from this disease being amongst children under one year of age. The deaths from diphtheria numbered only 17 during this quarter, and were equal to an annual death-rate of 0·38 per 1,000, as compared with 0·39 the average rate in the five preceding third quarters, and with 0·24 per 1,000 the average rate in the large towns.

In the fourth quarter of the year 593 deaths were registered, corresponding to an annual death-rate of 13·4 per 1,000, as compared with 16·6 the average rate in the fourth quarters of the five preceding years, and with 18·1 the rate in the 33 large towns.

The death-rates in the large towns ranged from 11·9 in Croydon, 13·4 in Cardiff, 15·0 in Huddersfield, 15·1 in Derby, and 15·4 in Leicester, to 20·8 in Newcastle-upon-Tyne, 21·0 in Sunderland, 22·0 in Salford, 22·3 in Manchester, and 23·1 in Liverpool. The deaths from the principal zymotic diseases were 65 in number, being equal to an annual death-rate of 1·69 per 1,000, as compared with 1·70 the average rate in the fourth quarter of the five preceding years, and with 2·14 the average rate in the 33 large towns.

The most fatal amongst the zymotic diseases were diarrhœa and diphtheria. The diphtheria mortality rose from 0·38 per 1,000 in the previous quarter to 0·51, and was 0·02 above the average in the five preceding fourth quarters.

The following Table gives a summary of the vital statistics in Cardiff during the years 1889-1898 :—

TABLE X.

Years.	Births.	Birth-rate per 1,000 Inhabitants.	Deaths from all causes.	Death-rate per 1,000 Inhabitants.	Death-rate from the seven chief Infectious Diseases per 1,000 Inhabitants	Deaths under one year per 1,000 births registered.
1889	4,361	38·6	2,190	19·4	2·1	156
1890	4,600	39·3	2,469	21·1	2·4	165
1891	4,739	36·5	2,873	22·0	2·1	153
1892	4,776	35·0	2,560	18·7	2·7	157
1893	5,110	36·0	2,790	19·6	2·8	171
1894	5,100	34·2	2,415	16·2	1·7	137
1895	5,321	34·1	2,840	18·2	2·0	178
1896	5,591	34·3	2,795	16·8	2·2	165
1897	5,279	31·1	2,534	14·9	2·1	151
1898	5,520	31·0	2,627	14·7	2·2	157

The table of mortality in the Appendix gives the causes of death of both sexes at certain age groups. From this it will be seen that out of a total of 2,627 deaths, 1,221 or 46·4 per cent. were amongst children under five years of age.

The most fatal of the zymotic diseases was diarrhœa, which caused at all ages 149 deaths, and of these 137 were amongst children under one year of age.

Next in order of fatality was diphtheria, which caused 96 deaths under five years of age out of a total of 129 at all ages. Of the 50 deaths from measles 46 were amongst children under five years of age; and of the 43 deaths from whooping cough, 42 were under that age.

The following Tables show the death-rate at age periods from all causes and from certain diseases per 10,000 persons living at those periods.

TABLE XI.—Showing age, distribution of population, and the number of deaths, and the death-rates at age periods :—

Age periods.	Estimated population 1898.	Number of Deaths.	Annual Death-rate per 1,000.
0—5	23,810	1,221	51·2
5—10	20,947	76	3·62
10—15	18,635	39	2·09
15—20	17,277	55	3·18
20—25	18,368	65	3·53
25—30	17,130	78	4·55
30—35	14,375	88	6·12
35—40	11,913	90	7·55
40—45	9,552	122	12·7
45—50	7,712	99	12·8
50—55	5,986	125	20·8
55—60	4,081	109	26·7
60—65	3,507	111	31·6
65—70	2,053	123	59·9
70—75	1,364	89	65·2
75—80	658	73	110·9
80 upwards	402	64	159·2

TABLE XII.—Showing death-rate at age periods from certain diseases :—

Age Periods.	0—5.	5—10.	10—15.	All Ages.
Measles	19·3	1·4	—	2·81
Scarlet Fever	2·9	—	—	0·45
Diphtheria	40·3	0·4	1·0	7·25
Diarrhœa	57·5	13·3	—	8·38
Whooping Cough ...	17·6	0·4	—	2·41
Pneumonia	46·6	2·8	0·5	10·00
Bronchitis	34·4	0·7	—	12·30
Tuberculosis (all forms) ...	38·2	1·5	7·5	18·00

The influence of age upon the mortality is shown by the above table to be very considerable, and it is to be feared that many of the deaths at the early periods of life are to be attributed to maternal ignorance and carelessness with respect to feeding and nursing, and to careless exposure to infection.

On referring to Table XX. the mortality in the different divisions of the town is seen. The general death-rates in the three Registration Sub-Districts do not vary much, and are exceedingly low in all. The highest death-rate, 15·0 per 1,000, occurred in the Central District, and the lowest, 12·4, in the East; the death-rate in the West District was 12·6 per 1,000.

The death-rates from the chief zymotic diseases were 2·1 per 1,000 in the West and in the Central Districts, and 1·8 in the East District.

The infant mortality, as measured by the proportion of deaths under one year to 1,000 births registered, was highest in the Central District, where it reached 173, as compared with 157 in the East, and with 144 in the West Registration Sub-Districts.

The general death-rate in the different municipal wards ranged from 9·4 per 1000 in the Riverside Ward, 10·2 in the Park Ward, and 13·5 in the South Ward to 16·6 in the Roath Ward and to 17·2 in the Adamsdown Ward.

The death-rate from the chief zymotic diseases ranged from 1·2 per 1,000 in the South Ward, and 1·4 in the Riverside Ward to 2·3 in the Adamsdown Ward, 2·5 in the Cathays Ward and 2·7 in the Grangetown Ward.

Measles was most fatal in the Wards of the Central Registration Sub-district, the highest atality being in the Cathays Ward where the death-rate reached 0·7 per 1,000 as compared with 0·2 per 1000 in the entire Urban District. The diphtheria death-rate ranged from 1·2 per 1000 in the Grangetown Ward, 0·6 in the Roath Ward, and 0·5 in the Canton, Riverside, South, Adamsdown and Splott Wards respectively, to 0·2 per 1000 in the Park Ward.

Typhoid Fever, the disease most usually connected with insanitary conditions, has during the past years produced a very low mortality and has prevailed to a comparatively slight extent, and, as will be seen in another part of this report, the mortality from this disease has for several years past been considerably below the average in other large Urban Districts.

In commenting upon the low general death-rate which has occurred in this district during the past few years, it is only right to mention that other circumstances, besides improved sanitation, may have contributed to this result.

The influence of the birth-rate upon the general mortality is, perhaps, at first sight not sufficiently obvious.

It might be supposed, apart from sanitary conditions, that an unusually high birth-rate would produce a high death-rate by bringing into existence a large number of infants amongst whom the mortality is very high. But this is by no means the case in an increasing population in which the births have in past years largely exceeded the deaths, and in which a continuously high and increasing birth-rate has been succeeded by a lower and diminishing rate, and in which therefore a large proportion of children have survived to ages in which the rate of mortality is exceedingly low. Consequently a high birth-rate about ten or fifteen years ago would produce at the present time a large proportion of young persons at ages in which the mortality is low. In Cardiff we find that during the period 1882-90 the annual birth-rate varied from 38·3 to 43·0 per 1,000, as compared with 30·0 to 35·3 in the 33 large towns for the same period, and during the period 1885-1889 the birth-rate in each year was the highest amongst these towns. But during the past five years the birth-rate has declined, and has ranged from 30·7 to 31·3 per 1,000. The diminution in the general death-rate may therefore, to some extent, be due to the survival of a large number of children to healthy ages, and to the lowered proportion of infants and children under five years of age. At the same time this influence has not been confined to Cardiff, and has doubtless to some extent reduced the death-rate throughout the country, and especially in rapidly-increasing Urban districts, so that the relative position of the death-rate in the large towns would not be materially affected.

The influence of season and weather upon mortality and sickness must also be taken into account in estimating the health of the community. This influence is more particularly felt in the case of diseases of the respiratory organs and of diarrhœal diseases. It is invariably found that a high general death-rate accompanies a severely cold and dry winter and an unusually hot summer, the former condition affecting chiefly the mortality from bronchitis, pneumonia and other diseases of the respiratory system; the latter, especially towards the end of the summer and autumn, causing an increased mortality from infantile diarrhœa.

During the past year the meteorological tables enclosed in this report show that

The weather in the first quarter of the year was, with the exception of the latter part of March, generally mild, the mean temperature was 1°2 above the average for the corresponding quarter of the six preceding years. In the second quarter the mean temperature was 1°5 above the average, and the rainfall in May and June slightly in excess. In the summer or third quarter of the year the weather was, in August and September, unusually fine and the rainfall small.

The weather in the fourth quarter of the year was mild, with a rainfall rather above the average.

On the whole the climatic conditions during the year were such as would tend to produce a low death-rate from respiratory organs, and a diarrhœal death-rate above the average.

TABLE XIII.—Gives the population of each year, the annual deaths from all causes, from the seven chief zymotic diseases, and the death-rates from 1845 to 1898, inclusive, in the Borough of Cardiff.

Year.	Population.	All Causes.			Seven Chief Zymotic Diseases.		
		No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.	No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.
1845	13,385	324	24·2		51	3·8	
1846	14,212	321	22·6		50	3·5	
1847	15,039	484	32·2		133	8·8	
1848	15,856	579	36·5		186	11·7	
1849	16,693	864	51·7	33·1	483	28·9	10·0
1850	17,520	485	27·7		116	6·6	
1851	18,354	525	28·6		81	4·4	
1852	19,724	620	31·4		175	8·8	
1853	21,094	644	30·5		129	6·1	
1854	22,464	925	41·1		353	15·7	
1855	23,834	641	26·9		665	2·7	
1856	25,204	772	30·6		136	5·3	
1857	26,574	883	33·2		234	8·8	
1858	27,944	753	26·9		128	4·5	
1859	29,314	826	28·1	26·5	212	7·2	7·4
1860	30,684	662	21·5		95	3·0	
1861	32,054	837	26·1		100	3·1	
1862	32,804	695	21·2		132	4·0	
1863	33,552	862	25·7		268	7·0	
1864	34,300	932	27·1		250	7·3	
1865	35,048	867	24·7		161	4·5	
1866	35,796	882	24·6		192	5·3	
1867	36,544	873	23·8		116	3·1	
1868	37,292	843	22·6		109	2·9	
1869	38,040	1,005	26·4	23·5	156	4·1	3·9
1870	38,788	903	23·2		133	3·4	
1871	39,356	891	22·5		158	3·9	
1872	40,284	916	22·7		234	5·8	
1873	41,032	995	24·2		103	2·5	
1874	41,780	885	21·2		154	3·6	
*1875	69,850	1,547	22·1		294	4·2	
1876	72,438	1,455	20·8		339	4·6	
1877	75,026	1,475	19·6		255	3·5	
1878	77,614	1,468	18·9		197	2·5	
1879	80,202	1,428	17·6		137	1·7	
1880	82,790	1,634	19·7	20·0	306	3·7	3·3
1881	85,378	1,556	18·2		164	1·9	
1882	88,603	1,724	19·4		293	3·3	
1883	91,204	1,807	19·8		253	2·7	
1884	93,468	2,250	24·3		476	5·0	
1885	97,034	2,481	25·5		521	5·3	
1886	100,736	2,269	22·5		532	3·2	
1887	104,580	2,280	21·8		278	2·6	
1888	108,570	2,212	20·3		324	2·9	
1889	112,712	2,190	19·4	20·4	248	2·1	2·9
1890	117,012	2,469	21·1		282	2·4	
1891	130,283	2,873	22·0		272	2·1	
1892	136,181	2,560	18·7		371	2·7	
1893	142,435	2,794	19·6		408	2·8	
1894	148,890	2,415	16·2		257	1·7	
1895	155,637	2,840	18·2		324	2·0	
1896	162,690	2,795	16·8		362	2·2	
1897	170,063	2,534	14·9		371	2·1	
1898	177,770	2,627	14·8		396	2·2	

* Canton and Roath taken into the Borough.

TABLE XIV.—Annual Death-rate per 1,000 of the 33 large Towns in England and Wales for the 10 years 1889-1898 inclusive.

33 Large Towns.	Annual Death-rate per 1,000 living.									
	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
London ...	17·4	20·3	21·4	20·6	21·3	17·8	19·8	18·6	18·2	18·7
West Ham ...	...	...	...	18·6	18·9	16·2	17·9	16·1	15·7	15·4
Croydon ...	...	...	...	15·8	16·3	13·2	14·5	14·2	13·1	13·9
Brighton ...	15·1	17·8	18·2	19·2	18·4	16·4	18·9	16·1	15·1	16·9
Portsmouth ...	18·1	19·6	19·0	18·5	18·2	15·2	17·8	16·6	16·2	16·3
Plymouth ...	25·2	22·4	22·5	18·8	21·2	18·3	20·1	19·6	19·0	19·5
Bristol ...	17·6	19·2	20·9	19·5	18·9	17·3	18·1	16·9	17·2	17·2
Swansea ...	...	...	...	20·4	19·6	17·0	18·3	16·8	15·8	18·6
Wolverhampton ...	20·6	21·8	24·2	21·5	23·3	20·7	24·4	20·0	22·5	21·3
Birmingham ...	18·7	20·7	22·2	20·4	22·2	18·6	20·3	20·8	21·6	20·0
Norwich ...	18·3	21·1	19·3	20·0	19·3	18·7	19·3	17·4	18·8	19·0
Leicester ...	16·9	17·9	21·7	18·2	20·0	14·7	17·2	16·7	17·7	16·9
Nottingham ...	17·0	16·5	19·9	18·7	18·5	17·2	19·0	17·5	18·8	17·7
Derby ...	16·3	18·5	19·1	19·3	18·2	15·0	16·7	15·7	16·0	16·8
Birkenhead ...	17·8	19·7	20·9	19·6	20·5	18·1	19·5	19·2	18·3	17·4
Liverpool ...	21·5	23·6	27·0	24·7	27·3	23·8	28·8	22·7	24·4	24·0
Bolton ...	22·0	25·8	21·9	22·8	24·1	18·8	24·0	20·7	22·0	19·4
Manchester ...	26·7	30·6	26·5	23·8	24·9	20·4	25·2	22·6	23·1	21·9
Salford ...	20·4	22·4	25·0	24·6	24·1	21·0	25·6	22·6	23·9	22·7
Oldham ...	20·4	21·2	25·7	22·0	21·0	18·6	22·0	20·3	19·2	17·6
Burnley ...	...	...	...	20·4	21·9	18·7	23·4	17·5	19·5	16·3
Blackburn ...	25·4	23·5	25·8	21·7	23·3	17·9	24·3	17·9	19·5	18·4
Preston ...	30·0	27·4	27·3	24·1	26·4	20·8	23·9	20·8	24·4	19·3
Huddersfield ...	18·8	19·0	23·0	18·1	17·2	15·8	16·9	16·5	16·4	15·9
Halifax ...	21·5	22·5	22·8	19·5	17·4	16·5	19·3	17·3	16·5	17·9
Bradford ...	19·1	20·4	22·2	18·0	21·0	17·0	19·9	16·5	17·5	17·6
Leeds ...	22·0	22·6	22·9	19·8	22·3	17·9	20·5	18·8	19·9	19·2
Sheffield ...	20·8	24·9	23·9	20·8	22·3	17·8	20·5	19·3	21·2	20·2
Hull ...	20·2	19·2	21·0	19·6	21·8	17·4	20·8	18·9	18·6	18·4
Sunderland ...	22·8	22·7	25·0	20·9	22·5	20·8	21·8	19·8	19·7	22·6
Gateshead ...	...	..	...	18·9	19·3	17·7	19·6	19·1	18·3	20·6
Newcastle-on-Tyne ...	25·1	25·9	23·8	19·7	21·0	18·3	20·5	18·5	19·1	21·4
Cardiff ...	**19·4**	**21·1**	**22·0**	**18 8**	**19·6**	**16 2**	**18 2**	**16·8**	**14·9**	**14·7**
Large Towns ...	19·3	21·3	22·5	20·7	21·6	18·1	20·7	18·9	19·1	19·0

CORRECTED DEATH-RATE.—Table XV., which is taken from the Annual Summary of the Registrar-General for the year 1898, gives the recorded and corrected death-rates in the large towns. It may, perhaps, be well to explain the necessity of this correction of death-rates, which is made annually by the Registrar-General for the purpose of comparing the mortality in different towns. The general or crude death-rate in any town is, of course, the proportion borne by deaths from all causes to each thousand of the population, and in any one year it is obtained arithmetically by multiplying the number of deaths by one thousand and dividing by the population. Thus in 1898—

$$\frac{\text{No. of deaths}=2,627\times 1,000}{\text{Population at the middle of the year}=177,770}=14{\cdot}8 \text{ the death-rate}$$

in Cardiff for that year. In the first place it is obvious that if the population be over-estimated the death-rate will be under-stated. This error cannot be satisfactorily corrected without a more frequent census enumeration of the population. The other fallacies which may detract from the value of the crude death-rate as a test of the relative healthiness of towns result from the difference in the age and sex distribution in different localities. Therefore, although it is safe to compare the death-rate of one year with those of other years in the same place, it is not so in the case of different localities in which the age and sex distribution of the population differ to any considerable extent. Practically, however, this correction is only necessary when extreme accuracy is required,

for, on comparing the recorded with the corrected rates in Table XV., it will be seen that their relative position is not altered to any appreciable extent. The object of this correction will be readily appreciated on referring to Table XI., which gives the death-rates at different age periods, calculated on the estimated number of persons living at those ages. It will be seen that there is a much greater tendency to death among the very old and very young than among young adults and middle-aged persons. A district having an unduly large proportion of persons at the extreme ages of life will necessarily have a higher general death-rate than a district containing a large proportion of young and vigorous adults, although both places may be on a perfect equality as regards their climate and sanitary arrangements. The effect of a varying age distribution on the death-rate of England and Wales is pointed out by Dr. Tatham in his supplement to the 55th Annual Report of the Registrar-General. "There is no doubt," he says, "that a consider-"able proportion of the diminution in the death-rate since the year 1870 is the direct result of what is "implied by the term 'improved sanitation,' but that the whole of the difference between the rates "of the two most recent decennia cannot thus be accounted for will be obvious on reflection." He then goes on to show "that the numbers both of males and females living between the ages of 10 "and 45 years were relatively greater in 1881-90 than in the preceding decennium," and further, "That sanitary conditions remaining unchanged, the effect of this variation in the age-constitution "of the population must necessarily be to reduce the *mortality at all ages;* and that this has "actually been the case."

In the same way an uneven distribution of the sexes in a given population may affect the general death-rate. At nearly all ages the death-rate of females is lower than that of males, consequently an excess of females will of itself tend to reduce the death-rate.

In order therefore to make a more correct comparison of the mortality of different towns, it is necessary to know the difference that exists between them in respect of the age and sex distribution of their populations.

The Registrar General has given "factors" for the large towns based upon the age and sex distribution, as ascertained by the census. In order to obtain the corrected death-rate in each town he multiplies the recorded death-rate by this factor, the effect of which is to neutralize the disparity and to give rates that would have been recorded in the several towns had their populations been identical so far as age and sex distribution is concerned with the population of England and Wales.

Table XV. gives the recorded and corrected death rates per 1,000 persons living in the 33 large towns in 1898.

TABLE XV.—Recorded and Corrected Death-rates per 1,000 Persons living in 33 Great Towns in 1898.

Towns, in the order of their Corrected Death-rates.	Standard Death-rate.*	Factor for Correction for Sex and Age Distribution.†	Recorded Death-rate, 1898.	Corrected Death-rate, 1898.‡	Comparative Mortality Figure, 1898.§
Cols.	1.	2.	3.	4.	5.
England and Wales ...	19·15	1·0000	17·58	17·58	1,000
England and Wales, less the 33 Towns... ...	19·45	0·9845	16·78	16·52	940
33 Towns	17·71	1·0813	19·03	20·58	1,171
Croydon	18·37	1·0424	13·89	14·48	824
Cardiff	**17·16**	**1·1159**	**14·82**	**16·54**	**941**
West Ham	17·75	1·0788	15·41	16·62	945
Portsmouth	18·73	1·0224	16·30	16·67	948
Brighton	18·04	1·0110	16·91	17·10	973
Bristol	18·33	1·0379	17·20	17·85	1,015
Norwich	19·99	0·9570	18·96	18·16	1,033
Leicester	17·64	1·0855	16·93	18·38	1,046
Huddersfield	16·47	1·1627	15·92	18·51	1,053
Derby	17·36	1·1031	16·82	18·55	1,055
Burnley	16·67	1·1487	16·30	18·72	1,065
Plymouth	19·70	0·9720	19·54	18·99	1,080
Nottingham	17·81	1·0752	17·67	19·00	1,081
Birkenhead... ...	17·42	1·0993	17·44	19·17	1,090
Hull	18·23	1·0504	18·36	19·29	1,097
Halifax	17·20	1·1133	17·87	19·89	1,131
London	17·97	1·0656	18·68	19·91	1,133
Oldham	16·72	1·1453	17·58	20·13	1,145
Bradford	16·73	1·1446	17·60	20·14	1,146
Swansea	17·53	1·0924	18·57	20·29	1,154
Blackburn	17·05	1·1231	18·45	20·72	1,179
Preston	17·42	1·0993	19·35	21·27	1,210
Leeds	17·28	1·1082	19·21	21·29	1,211
Bolton	16·90	1·1331	19·38	21·96	1,249
Birmingham	17·33	1·1050	20·00	22·10	1,257
Gateshead	17·83	1·0740	20·61	22·14	1,259
Wolverhampton	18·30	1·0464	21·27	22·26	1,266
Sheffield	17·22	1·1120	20·24	22·51	1,280
Newcastle	17·58	1·0892	21·42	23·33	1,327
Sunderland...	18·25	1·0493	22·63	23·75	1,351
Manchester...	16·90	1·1331	21·89	24·80	1,411
Salford	17·03	1·1244	22·70	25·52	1,452
Liverpool	17·44	1·0980	23·98	26·33	1,498

* The Standard Death-rate signifies the rate at all ages calculated on the hypothesis that the rates at each of twelve age-periods in each town were the same as in England and Wales during the ten years 1881-90, the rate at all ages in England and Wales during that period having been 19·15 per 1,000.

† The Factor for Correction is obtained by dividing the Standard Death-rate in England and Wales by the Standard Death-rate in each town, and is the figure by which the Recorded Death-rate should be multiplied in order to correct for variations of sex and age distribution.

‡ The Corrected Death-rate is the Recorded Death-rate multiplied by the Factor for Correction.

§ The Comparative Mortality Figure represents the Corrected Death-rate in each town compared with the Recorded Death-rate at all ages in England and Wales in 1898, taken as 1,000.

INFANT MORTALITY.—The rate of infant mortality, as measured by the proportion of deaths of infants under one year of age to 1,000 births registered, was 157, as compared with 151 in 1897, and with 165 in 1896, and 179 in 1895. In the 33 large towns the rate of infant mortality was equal to 178 per 1,000 births registered. Three other towns, only, had a lower rate of infant mortality than Cardiff. The rate in London was equal to 167 per 1,000, while it averaged 185 in the 32 large provincial towns, among which it ranged from 150 in Croydon, 153 in Huddersfield, 156 in Portsmouth, and 157 in Cardiff, to 200 in Wolverhampton, 202 in Sunderland, 206 in Blackburn, 208 in Gateshead, 222 in Salford, and 225 in Preston. There is, perhaps, no more accurate statistical test of the sanitary condition of a district, than that supplied by the consideration of its infant mortality. For, whereas, a small error in the estimate of the population may interfere with the accuracy of the death-rate; the number of deaths registered amongst children under one year of age is known exactly, as also the number of births registered in any particular period. The chief causes which conduce to a high infant mortality are, without doubt, insanitary surroundings, and the ignorance of mothers and those having charge of infants. In former reports I have shown that the mortality among artificially fed children is invariably very much greater than among infants fed on breast milk, and that the diarrhœal complaints, which are so fatal in the summer among infants, are largely attributable to the use of unboiled cow's milk, mixed perhaps, sometimes, with other still more unsuitable articles of food.

TABLE XVI.

CAUSES OF DEATH.	Number of Deaths under 1 Year of Age.
Premature Birth	90
Congenital Defects	7
Diphtheria	11
Scarlet Fever	—
Measles...	15
Whooping Cough...	20
Diseases of Respiratory System	133
,, Nervous System	96
,, Digestive System	118
Diarrhœa	119
Tubercular Meningitis	26
Other Tubercular Diseases	24
Violence	10
Other Diseases	201

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ZYMOTIC DISEASES.—The 2,627 deaths from all causes included 396 from the seven chief zymotic diseases. Of these

50	were attributed to		Measles.
8	,,	,,	,, Scarlet Fever.
129	,,	,,	,, Diphtheria.
43	,,	,,	,, Whooping Cough.
17	,,	,,	,, Enteric Fever.
149	,,	,,	,, Diarrhœa.

The 396 deaths corresponded to an annual death-rate of 2·24 per 1,000 persons living, as compared with 2·1 the death-rate from zymotic diseases in 1897, and with 2·3 the average rate in the ten years 1888-1897 inclusive. The death-rate from the chief zymotic diseases in the 33 large towns in England and Wales averaged 2·85 per 1,000, and ranged from 1·61 in Huddersfield, 1·99 in Croydon, 2·04 in Burnley, and 2·15 in Plymouth, in Oldham, and in Halifax, to 3·26 in Norwich, 3·35 in Leicester, 3·69 in Sunderland, 3·82 in Sheffield, and 4·03 in Salford. The number of cases of infectious disease notified under the provisions of the Infectious Disease Notification Act was 1,529, as compared with 1,583 during the year 1897.

The total amount paid by the Sanitary Authority for the notifications so received during the year 1898 was £201 5s. 6d.

Table XVII. gives the death-rate per 1,000 from all causes, and from the chief zymotic diseases in the ten years 1888-97 and in 1898 in Cardiff and the 33 large towns—

Table XVII. 33 Towns.—Death-rates per 1,000 living from All Causes, and from the Principal Zymotic Diseases, and Infant Mortality, in the Ten Years 1888-97, and in 1898.

In this Table 0·00 indicates that the deaths were too few to give a rate of 0·005; when *no death* occurred, — is inserted.

Cities and Boroughs.	All Causes.		Small-pox.		Measles.		Scarlet Fever.		Diphtheria.		Whooping-Cough.		Fever.		Diarrhœa.		Deaths under One Year to 1000 Births.	
	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.	Ten years 1888-97.	1898.
33 Towns ..	20·4	19·0	0·02	0·00	0·59	0·56	0·25	0·14	0·31	0·31	0·52	0·42	0·20	0·20	0·86	1·22	167	178
London	19·7	18·7	0·01	0·00	0·62	0·68	0·23	0·13	0·48	0·39	0·56	0·48	0·15	0·13	0·67	0·97	155	167
West Ham ..	17·4	15·4	0·05	—	0·61	0·32	0·24	0·08	0·43	0·63	0·55	0·42	0·22	0·25	0·76	0·98	154	170
Croydon	14·4	13·9	0·00	—	0·36	0·27	0·07	0·07	0·29	0·14	0·39	0·28	0·11	0·09	0·47	1·14	128	150
Brighton	17·5	16·9	—	—	0·35	0·67	0·07	0·06	0·17	0·17	0·33	0·17	0·12	0·15	0·66	1·14	148	181
Portsmouth ..	17·4	16·3	0·00	—	0·46	0·37	0·09	0·17	0·17	0·30	0·33	0·23	0·23	0·23	0·82	0·86	150	156
Plymouth ..	20·6	19·5	0·01	—	0·57	0·71	0·48	0·04	0·16	0·11	0·44	0·28	0·16	0·06	0·64	0·95	168	170
Bristol	18·5	17·2	0·03	—	0·46	0·97	0·15	0·04	0·13	0·14	0·45	0·36	0·12	0·08	0·50	1·10	144	164
Cardiff ..	**18·4**	**14·8**	**0·01**	—	**0·44**	**0·28**	**0·21**	**0·05**	**0·31**	**0·73**	**0·47**	**0·24**	**0·17**	**0·10**	**0·82**	**0·84**	**160**	**158**
Swansea	19·0	18·6	0·00	—	0·47	0·87	0·57	0·11	0·09	1·22	0·45	0·39	0·19	0·13	0·36	0·49	157	184
Wolverhampton ..	22·0	21·3	0·01	—	0·44	0·22	0·25	0·26	0·30	0·43	0·47	0·10	0·23	0·23	1·20	1·95	188	200
Birmingham ..	20·7	20·0	0·05	—	0·51	0·36	0·23	0·09	0·21	0·26	0·55	0·49	0·16	0·22	1·11	1·36	180	191
Norwich	19·0	19·0	—	—	0·34	0·67	0·10	0·21	0·21	0·13	0·45	0·33	0·24	0·40	0·87	1·52	175	192
Leicester	18·4	16·9	0·01	—	0·41	1·03	0·19	0·21	0·15	0·30	0·39	0·09	0·20	0·14	1·49	1·58	199	191
Nottingham ..	18·8	17·6	0·01	—	0·41	0·44	0·13	0·14	0·08	0·10	0·43	0·25	0·29	0·24	0·98	1·20	174	178
Derby	17·4	16·8	0·02	—	0·34	0·51	0·14	0·19	0·13	0·09	0·39	0·27	0·20	0·27	0·70	0·93	152	169
Birkenhead ..	19·5	17·4	0·00	—	0·54	0·27	0·17	0·28	0·19	0·43	0·51	0·07	0·32	0·34	0·75	1·14	166	186
Liverpool ..	25·5	24·0	0·01	0·00	0·70	0·44	0·45	0·23	0·17	0·23	0·62	0·52	0·35	0·26	1·17	1·54	189	184
Bolton	22·5	19·4	0·01	—	0·79	0·25	0·31	0·19	0·12	0·07	0·63	0·37	0·29	0·31	1·26	1·74	179	168
Manchester ..	24·8	21·9	0·02	—	0·80	0·50	0·35	0·12	0·26	0·10	0·61	0·32	0·26	0·23	1·10	1·84	185	197
Salford	24·5	22·7	0·01	—	0·99	0·46	0·47	0·29	0·41	0·15	0·75	0·60	0·41	0·37	1·40	2·16	198	212
Oldham	21·8	17·6	0·10	—	0·71	0·57	0·26	0·16	0·16	0·07	0·51	0·44	0·16	0·15	0·63	0·76	178	175
Burnley	21·0	16·3	0·01	—	0·65	0·07	0·29	0·05	0·22	0·27	0·38	0·06	0·26	0·25	1·29	1·34	209	195
Blackburn ..	22·6	18·4	0·02	—	0·97	0·38	0·34	0·12	0·05	0·23	0·50	0·04	0·27	0·24	1·23	1·56	201	206
Preston	24·8	19·3	0·05	—	0·92	0·02	0·20	0·03	0·13	0·07	0·55	0·53	0·33	0·37	2·05	2·05	234	225
Huddersfield ..	18·3	15·9	0·00	—	0·43	0·31	0·23	0·10	0·13	0·13	0·36	0·11	0·13	0·10	0·30	0·86	158	153
Halifax	19·3	17·9	0·06	—	0·38	0·73	0·15	0·15	0·14	0·08	0·28	0·36	0·16	0·19	0·25	0·64	158	163
Bradford	19·5	17·6	0·07	—	0·46	0·45	0·24	0·05	0·07	0·07	0·43	0·29	0·15	0·21	0·87	1·05	171	185
Leeds	20·8	19·2	0·01	0·00	0·56	0·46	0·20	0·29	0·11	0·54	0·43	0·39	0·22	0·22	1·10	1·22	178	182
Sheffield	21·4	20·2	0·14	—	0·53	0·49	0·36	0·16	0·16	0·26	0·51	0·62	0·23	0·40	1·21	1·89	180	195
Hull	19·8	18·4	0·02	—	0·47	0·40	0·17	0·12	0·12	0·07	0·37	0·30	0·24	0·25	1·29	1·85	173	182
Sunderland ..	21·7	22·6	0·01	0·01	0·58	0·59	0·21	0·22	0·08	0·06	0·46	0·47	0·49	0·48	1·12	1·86	169	202
Gateshead ..	19·6	20·6	0·00	0·03	0·60	0·49	0·21	0·18	0·13	0·10	0·53	0·64	0·22	0·17	1·01	1·49	166	208
Newcastle ..	20·6	21·4	0·00	0·01	0·50	0·57	0·14	0·11	0·20	0·13	0·50	0·62	0·15	0·30	0·69	1·10	167	190

TABLE XVIII.

	Ten Years—1888-1897.		Year 1898.	
	Cardiff.	33 Large Towns.	Cardiff.	33 Large Towns.
All Causes	18·5	20·4	14·8	19·0
Small Pox	0·01	0·02	—	0·00
Measles	0·44	0 59	0·28	0·56
Scarlatina	0·21	0·25	0·04	0·14
Diphtheria	0·31	0·31	0·72	0·31
Whooping Cough	0·47	0·52	0·24	0·42
*Fever	0·10	0·20	0·09	0·20
Diarrhœa	0·82	0·86	0·83	1 22

* Includes Enteric, Typhus and simple or ill-defined continued fever.

TABLE XIX.

Cases of infectious disease notified since the adoption of the Infectious Disease Notification Act, 1889.

	1890	1891	1892	1893	1894	1895	1896	1897	1898
Small Pox ..	..	9	5	4	10	1	45	7	..
Diphtheria ..	63	67	155	462	326	229	296	512	940
Croup	9	3	9	17	17	19	10	4	20
Scarlet Fever ..	335	685	1,851	816	577	484	874	758	332
Enteric Fever ..	152	130	118	105	62	79	74	117	80
Typhus Fever ..	..	..	..	41	1	..	1	..	..
Erysipelas ..	45	52	95	152	135	132	134	163	133
Puerperal Fever	4	10	12	24	19	17	21	12	18
Total ..	608	956	2,245	1,621	1,147	961	1,455	1,573	1,523

Table XX.—Analysis of Deaths in the Municipal Borough of Cardiff in the Registration Sub-districts, and in each Ward in the Borough during the Year 1898.

LOCALITIES.	Population, 1898.	Area in Acres.	Persons per acre.	Total Births.	Birth-rate.	Total Deaths.	Death-rate.	Deaths under One Year per 1,000 Births Registered.	Seven Chief Zymotic Diseases.		Principal Zymotic Diseases.																Tabes Mesenterica, Tubercular Meningitis, and other forms of Tuberculosis.		Phthisis.		Diseases of Respiratory Organs.	
											Small Pox.		Measles.		Scarlatina.		Diphtheria.		Whooping Cough.		Typhoid Fever.		Typhus Fever.		Diarrhœa.							
									Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.			Deaths.	Death-rate.	Deaths.	Death-rate.
Borough of Cardiff	177,770	8,351	29·35	5,520	31·0	2,627	14·7	157	396	2·2	..	..	50	0·2	8	·04	129	0·7	43	0·2	17	·09	..	..	149	0·8	118	0·60	203	1·1	430	2·4
West Cardiff Registration Sub-district																																
Canton Ward	20,738	449	46·1	752	36·2	295	14·2	147	48	2·3	..	..	3	0·1	..	..	12	0·5	4	0·1	..	..	..	..	29	1·3	15	0·72	18	0·8	51	2·4
Riverside Ward	18,700	313	59·7	392	21·0	177	9·4	186	27	1·4	..	..	1	·05	..	..	10	0·5	4	0·2	..	..	..	..	12	0·6	12	0·64	15	0·8	19	1·0
Grangetown Ward	19,989	1,905	10·4	865	46·2	278	14·0	122	55	2·7	..	..	2	0·1	..	..	25	1·2	1	0·1	1	·05	..	..	26	1·3	15	0·75	16	0·8	43	2·2
West Cardiff	59,427	2,667	22·2	2,009	33·8	750	12·6	144	130	2·1	..	..	6	0·1	..	..	47	0·7	9	0·1	1	·01	..	..	67	1·1	42	0·70	49	0·8	113	1·8
Central Cardiff Registration Sub-district																																
South Ward	11,353	519	21·8	289	25·4	154	13·5	169	15	1·2	..	..	2	0·1	..	..	6	0·5	.	..	.	..	..	..	7	0·6	8	0·70	15	1·2	29	2·5
Central Ward	12,957	473	27·3	281	21·6	198	15·2	170	24	1·8	..	..	2	0·1	..	..	4	0·3	6	0·4	1	·07	..	..	11	0·8	7	0·54	15	1·1	35	2·7
Cathays Ward	17,278	369	46·8	582	33·6	244	14·1	161	45	2·5	..	..	13	0·7	..	..	10	0·5	6	0·3	2	0·1	..	..	14	0·8	16	0·92	16	0·9	37	2·1
Adamsdown	13,951	1,570*	8·8	458	32·8	241	17·2	192	33	2·3	..	..	9	0·6	..	..	8	0·5	3	0·2	..	..	..	..	13	0·9	2	0·14	22	1·5	45	3·2
Central Cardiff	55,539	2,931	18·9	1,610	29·0	837	15·0	173	117	2·1	..	..	26	0·4	..	..	28	0·5	15	0·2	3	·05	..	..	45	0·8	33	0·59	68	1·2	146	3·2
East Cardiff Registration Sub-district																																
Splott Ward	16,655	1,454	11·4	618	37·1	232	13·9	173	30	1·7	..	..	7	0·4	..	..	9	0·5	8	0·4	1	·06	..	..	5	0·3	13	0·78	14	0·8	39	2·3
Roath Ward	14,844	766	19·3	496	33·4	217	14·6	163	30	2·0	..	..	9	0·6	..	..	13	0·8	1	·06	1	·06	..	..	6	0·4	10	0·67	12	0·8	48	3·2
Park Ward	25,782	533	48·3	707	27·4	265	10·2	141	45	1·7	..	..	2	·07	..	..	6	0·2	10	0·3	3	0·1	..	..	24	0·9	9	0·34	24	0·9	46	1·7
East Cardiff	57,281	2,753	20·0	1,821	31·5	714	12·4	157	105	1·8	..	..	18	0·3	..	..	28	0·4	19	0·3	5	·08	..	..	35	0·6	32	0·55	50	0·8	133	2·3
Infectious Diseases Hospital	..	..	..	..	..	45	..	..	41	..	..	..	..	..	8	..	26	..	..	..	7	..	..	..	..	..	2	..	1	..	..	..
Union Workhouse	..	..	..	..	80	..	194	.	..	3	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	5	..	33	..	32	..
Infirmary	..	..	..	..	..	..	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	1	..	6	..
Seamen's Hospital	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..

The population in the above Table is, in the case of the Borough, that given by the Registrar General, as the estimate to the middle of the Year 1898. The populations of the Registration Sub-districts and Wards are estimated on the basis of the number of inhabited houses, allowing an average of 6·29 persons to each house.

* In addition to the above the water area of the Docks is 108 acres, and included in this total of 8,459 acres are 2,600 of water and foreshore.

TABLE XXI.—Shews the number of Infectious Diseases reported under the Notification Act, and Deaths during each quarter in the year, 1898.

	Small Pox.		Cholera.		Diphtheria.		Croup.		Erysipelas.		Scarlet Fever.		Typhoid Fever.		Typhus Fever.		Puerperal Fever.		Relapsing Fever.		Continued Fever.	
	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.
First Quarter	—	—	—	—	52	357	3	5	1	37	2	145	4	25	—	—	—	3	—	—	—	—
Second „	—	—	—	—	37	213	1	7	1	36	5	93	2	11	—	—	—	7	—	—	—	—
Third „	—	—	—	—	17	145	2	—	—	27	—	57	7	26	—	—	1	7	—	—	—	3
Fourth „	—	—	—	—	23	225	2	8	—	33	1	37	4	18	—	—	2	1	—	—	—	3
Year 1898	—	—	—	—	129	940	8	20	2	133	8	332	17	80	—	—	3	18	—	—	—	6

TABLE XXII.—The following Tables show the distribution of mortality from the Seven Chief Zymotic Diseases, from Phthisis, from Diseases of the Respiratory Organs, and from other causes, in each street in the Borough, during the year 1898.

CENTRAL WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Bridge and Little Bridge street	..	..	..	..	..	..	..	..	3	3	6
Blackweir	..	..	..	..	..	..	..	..	..	2	2
Bute street and terrace ..	..	..	..	..	..	..	1	..	..	4	5
Canal street ..	..	..	..	..	..	..	..	..	..	3	3
Caroline street ..	..	..	..	..	..	..	..	..	..	2	2
Clytha place ..	..	..	..	..	..	..	..	..	..	1	1
Canal parade ..	..	..	..	..	..	..	..	..	..	3	3
Colum road	..	..	..	..	..	..	..	..	..	4	4
Crichton street ..	..	..	..	..	..	..	..	..	1	4	5
Charles street ..	..	..	..	1	..	..	..	..	..	..	1
Charlotte street ..	..	..	..	..	..	..	..	..	1	2	3
Carpenters' Arms court ..	..	..	..	..	..	..	..	..	..	1	1
Castle street ..	..	..	..	..	..	..	..	..	..	1	1
David street ..	..	..	..	..	1	..	..	..	..	1	2
Davies court and street ..	..	..	..	..	..	..	..	..	1	3	4
Dumfries place ..	..	..	..	..	..	..	..	..	1	1	2
Eisteddfod street ..	..	..	..	..	..	1	..	..	1	3	5
East terrace ..	..	..	..	1	..	..	1	..	2	1	5
Edward street, terrace, and place ..	..	..	..	1	1	..	..	1	4	3	10
Ebenezer street ..	..	..	..	..	..	..	..	..	..	2	2
Frederick street ..	..	..	..	..	1	..	..	1	1	8	11
G. W. R. ..	..	..	..	..	..	..	..	..	..	1	1
Giles's court ..	..	..	..	..	..	..	..	..	..	1	1
Havelock street ..	..	..	..	..	..	..	..	1	1	1	3
Glamorgan canal ..	..	..	..	..	..	..	..	..	..	4	4
Hill's terrace ..	..	..	..	..	..	..	1	..	1	7	9
High street	..	..	..	..	..	..	..	..	..	2	2
Harris' court ..	..	..	..	..	..	..	..	..	..	..	..
John street	..	..	..	..	..	..	..	..	..	1	1
Love lane	..	1	..	1	1	..	1	2	..	2	8
Little Frederick street ..	..	..	..	..	..	..	1	..	1	2	4
Millicent street ..	..	..	..	..	..	..	..	1	1	4	6
Matthews' court ..	..	..	..	..	..	..	..	..	1	1	2
Mary Ann street ..	..	..	..	..	..	..	..	1	3	1	5
Nazareth house ..	..	..	..	..	1	..	..	2	1	8	12
North road	..	..	..	..	..	..	1	..	..	1	2
Old Barracks ..	..	..	..	..	..	..	1	..	..	..	1
Park place	..	..	..	..	..	..	1	..	..	1	2
Pembroke terrace ..	..	..	..	..	..	..	..	..	..	2	2
Park street	..	..	..	..	..	..	1	1	..	1	3
Penarth road ..	..	..	..	..	..	..	..	..	..	1	1
Queen street ..	..	..	..	..	1	..	..	..	1	3	5
Raven street ..	..	..	..	..	..	..	..	1	..	4	5
Roberts' court ..	..	..	..	..	..	..	..	..	..	1	1
Rodney street ..	..	..	..	..	..	..	1	..	..	4	5
Ruperra street ..	..	..	..	..	..	..	..	..	..	1	1
Scott street	..	..	..	..	..	..	..	..	1	4	5
St. Mary street ..	..	..	..	..	..	..	..	1	..	1	2
Stanley street ..	..	..	..	..	..	..	..	..	1	..	1
Saunders road ..	..	..	..	..	..	..	..	..	1	1	2
Tredegar street ..	..	..	..	..	..	..	..	2	3	..	5
Union street ..	..	1	..	..	..	..	..	1	2	3	7
Wharton street ..	..	..	..	..	..	..	1	..	..	..	1
Wood street ..	..	..	..	..	..	..	..	..	1	3	4
Wharf street ..	..	..	..	..	..	..	..	..	..	2	2
Working street ..	..	..	..	..	..	..	..	..	..	1	1
Windsor place ..	..	..	..	..	..	..	..	..	1	2	3
Westgate street ..	..	..	..	..	..	..	..	..	..	1	1
Total ..	..	2	..	4	6	1	11	15	35	124	198

SOUTH WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Angelina street	..	..	..	..	..	..	..	2	1	3	6
Alice street	..	..	..	1	..	..	..	1	..	..	2
Adelaide street and place	..	..	..	..	..	..	..	1	2	2	5
Blake terrace	..	..	..	..	..	..	..	..	1	..	1
Bute street and place	..	..	..	..	..	..	2	2	3	15	22
Bute ship yard	..	..	..	..	..	..	1	..	..	..	1
Bute crescent	..	..	..	..	..	..	..	..	..	1	1
Bute esplanade	..	..	..	..	..	..	..	..	..	..	..
Bute farm	..	..	..	..	..	..	..	..	..	1	1
Christina street	..	..	..	..	..	..	1	2	3	7	13
Collingdon road	..	..	..	1	..	..	..	..	..	..	1
Clarence place and embankment	..	..	..	..	..	..	1	1	..	4	6
Canal parade	..	..	..	..	..	..	..	..	..	1	1
Dudley street and place	..	..	..	..	..	..	..	..	..	1	1
Eleanor street	..	..	..	..	..	..	..	..	..	1	1
Evelyn street	..	..	..	..	..	..	..	..	2	8	10
Francis street	..	..	..	..	..	..	..	..	1	1	2
George street	..	..	..	..	..	..	..	..	..	2	2
Hannah street	..	..	..	..	..	..	..	..	..	2	2
Harrowby street	..	..	..	..	..	..	..	..	..	1	1
Hodge's row	..	..	..	1	..	..	..	..	..	2	3
Herbert street	..	1	..	..	..	..	..	..	3	2	6
Harpur street	..	..	..	..	..	..	1	..	..	..	1
Henry street	..	..	..	..	..	..	..	..	..	2	2
Hamadryad Hospital	..	..	..	..	..	..	..	1	..	3	4
John street	..	1	..	..	..	..	..	..	..	..	1
Louisa street	..	..	..	..	..	..	..	..	..	1	1
Loudon square	..	..	..	..	..	..	..	..	1	5	6
Mount Stuart square	..	..	..	..	..	..	..	..	..	2	2
Margaret street	..	..	..	..	..	..	..	..	1	2	3
Maria street	..	..	..	..	..	..	..	1	3	2	6
North Church street	..	..	..	..	..	..	..	..	1	5	6
Nelson street	..	..	..	..	..	..	..	..	..	1	1
Old Sea lock	..	..	..	..	..	..	..	..	..	1	1
Penarth road and terrace	..	..	..	..	..	..	1	1	..	2	4
Peel street	..	..	..	..	..	..	..	..	2	1	3
Patrick street	..	..	..	1	..	..	..	..	..	2	3
Pomeroy street	..	..	..	..	..	..	..	1	2	1	4
South Church street	..	..	..	1	..	..	..	..	..	2	3
Sophia street	..	..	..	1	..	..	..	..	2	2	5
Stuart street	..	..	..	..	..	..	..	1	..	1	2
Tresillian terrace	..	..	..	..	..	..	..	1	1	2	4
Windsor esplanade	..	..	..	..	..	..	..	..	..	2	2
West Church street	..	..	..	..	..	..	..	....	..	1	1
Windsor terrace	..	..	..	..	..	..	..	....	..	1	1
Total	..	2	..	6	..	....	7	15	29	95	154

CATHAYS WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes	Total.
Allen's Bank road	..	..	..	..	..	1	..	..	..	1	2
Alexander street	..	..	..	..	..	..	..	1	..	3	4
Barracks	..	..	..	3	..	..	..	..	..	2	5
Bruce street	..	..	..	..	..	..	..	..	..	1	1
Cairns street	..	..	..	..	..	1	1	1	2	5	10
Cogan terrace	..	..	..	..	..	..	..	..	..	1	1
Coburn street	..	..	..	..	..	..	..	..	1	8	9
Crwys road	..	..	..	..	..	..	2	1	1	6	10
Cathays terrace	..	..	..	1	3	..	1	3	1	14	23
Cranbrook street	..	..	..	..	..	..	..	1	..	1	2
Catherine street	..	..	..	..	..	..	1	..	..	1	2
Dalton street	..	2	..	..	..	..	1	..	..	1	4
Dogfield street	..	..	..	..	1	..	..	..	..	..	1
Daniel street	..	1	..	..	..	..	..	..	6	6	13
Darran street	..	..	..	..	..	..	..	..	..	3	3
Fanny street	..	..	..	..	..	..	..	..	1	..	1
Flora street	..	..	..	1	..	..	..	..	1	5	7
Fitzroy street	..	1	..	..	..	..	..	..	..	..	1
Florentia street	..	..	..	..	1	..	..	..	1	3	5
George street	..	..	..	..	..	..	..	2	4	5	11
Gladys street	..	..	..	..	..	..	..	..	..	..	..
Glynrhondda street	..	..	..	..	..	..	..	..	..	3	3
Hirwain street	..	..	..	..	..	..	..	..	4	4	8
Harriett street and place ..	..	..	..	..	..	..	2	1	..	6	9
Lucas street	..	..	..	..	..	..	..	..	..	1	1
Llanbleddian gardens	..	..	..	..	..	..	..	..	..	2	2
Llandough street	..	..	..	..	..	..	..	..	..	3	3
Llantrissant street	..	..	..	..	..	..	..	..	2	6	8
Letty street	..	1	..	1	..	..	1	..	..	..	3
Llantwit street	..	..	..	..	..	..	..	..	..	2	2
Minny street	..	3	..	..	..	..	2	2	1	3	11
Manor street	..	..	..	..	..	..	..	..	2	..	2
Miskin street	..	..	..	..	..	..	..	..	..	3	3
Maliphant street	..	..	..	..	..	..	1	..	..	1	2
Minister street	..	..	..	..	..	..	..	..	..	1	1
Munday place	..	..	..	..	..	..	..	..	..	1	1
May street	..	4	..	..	..	..	..	..	2	4	10
Merthyr street	..	..	..	..	..	..	..	1	..	3	5
Norman street	..	..	..	..	..	..	..	..	..	3	3
Richards street	..	..	..	..	..	..	..	1	..	3	4
Ruthin gardens	..	..	..	..	..	..	..	..	..	3	3
Robert street	..	..	..	1	..	..	..	..	..	2	3
Spencer street	..	..	..	..	..	..	..	..	..	2	2
Salisbury road	..	..	..	..	..	..	..	..	2	3	5
Thesiger street	..	..	..	2	..	..	1	..	..	3	6
Talygarn street	..	..	..	1	..	..	..	..	..	1	2
Trelcherbert street	..	..	..	..	..	..	1	1	2	2	6
Treorky street	..	1	..	..	..	..	..	..	..	..	1
Woodville road	..	..	..	..	..	..	..	1	3	8	12
Whitchurch place	..	..	..	..	..	..	..	..	..	3	3
Whitchurch road	..	..	..	..	..	..	..	..	..	5	5
Total ..	..	13	..	10	6	2	14	16	37	146	244

PARK WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Alfred street	..	..	..	..	..	..	..	1	1	1	3
Albany road	..	..	..	..	..	..	..	..	3	3	6
Arran street ..	..	..	..	..	..	..	..	..	..	2	2
Adeline street ..	..	..	..	..	..	..	..	1	..	..	1
Angus street	..	..	..	..	..	..	..	..	1	..	1
Arabella street ..	..	..	..	..	..	..	2	..	..	7	9
Bangor road ..	..	..	..	..	..	..	..	..	..	1	1
Byron street ..	..	..	..	..	..	..	1	2	..	3	6
Bedford street and place	..	..	..	..	1	..	1	1	1	7	11
Castle road	..	..	..	..	1	..	..	..	1	8	10
Cyfarthfa street ..	..	1	..	..	..	1	..	2	..	7	11
Crofts street ..	..	..	..	..	1	..	..	..	2	1	4
Clive place	..	..	..	..	..	..	..	..	..	2	2
Crwys road and place .	..	..	..	1	..	..	1	1	1	3	6
Convent road ..	..	..	..	..	..	..	..	..	..	..	..
Dalcross street ..	..	..	..	..	1	..	..	..	..	..	1
Donald street ..	..	..	..	..	1	..	3	1	1	5	11
Daviot street ..	..	..	..	..	..	..	..	..	1	2	3
Diana street ..	..	..	..	..	..	..	1	..	2	3	6
Elm street	..	..	..	..	..	..	..	2	..	3	5
Essich street ..	..	..	..	..	..	..	..	..	..	1	1
Glenroy street ..	..	..	..	..	..	..	1	..	3	2	6
Gordon road ..	..	..	..	..	..	..	..	..	1	3	4
Inverness place ..	..	..	..	1	..	..	2	1	5	6	15
Kincraig street ..	..	..	..	..	..	..	..	1	..	2	3
Keppoch street ..	..	..	..	1	..	1	1	1	1	2	7
Lily street	..	..	..	..	1	..	..	..	..	1	2
Lochaber street ..	..	..	..	..	..	1	..	..	1	..	2
Montgomery street ..	..	..	..	..	..	..	..	..	..	..	..
Moy road	..	..	..	..	1	..	2	1	2	8	14
Milton street ..	..	..	..	..	..	..	..	1	3	4	8
Mackintosh place ..	..	1	..	1	..	..	3	1	..	11	17
Northcotestreet ..	..	..	..	..	..	..	..	..	1	2	3
Ninian road	..	..	..	..	..	..	..	..	..	1	1
Newport road ..	..	..	..	..	..	..	1	..	..	..	1
Oxford street ..	..	..	..	..	..	..	..	..	2	3	5
Parade	..	..	..	..	..	..	..	..	..	2	2
Penylan	..	..	..	..	..	..	..	..	..	1	1
Plasnewydd road and place	..	..	..	..	..	..	1	..	1	4	6
Russell street ..	..	..	..	..	..	..	..	..	3	6	9
Rose street	..	..	..	..	1	..	..	..	..	1	2
Richmond road and crescent	..	..	..	..	..	..	1	..	..	4	5
Rumney Railway ..	..	..	..	..	..	..	..	..	..	1	1
St. Peter street ..	..	..	..	..	..	..	..	..	..	3	3
Strathnairn street ..	..	..	..	1	1	..	..	2	1	7	12
Shakespeare street ..	..	..	..	..	..	..	1	2	2	2	7
Treharris street ..	..	..	..	1	1	..	1	..	1	6	10
Tavistock street ..	..	..	..	..	..	..	1	..	1	..	2
Talworth street ..	..	..	..	..	..	..	..	..	1	1	2
Tulloch street ..	..	..	..	..	..	..	..	..	..	2	2
Vere street	..	..	..	..	..	..	..	1	1	2	4
Violet row	..	..	..	..	..	..	1	..	..	1	2
Wellfield road ..	..	..	..	..	..	..	..	1	..	2	3
Walk	..	..	..	..	..	..	..	1	2	..	3
Wordsworth avenue ..	..	..	..	..	..	..	..	..	..	1	1
Total	..	2	..	6	10	3	24	24	46	150	265

ADAMSDOWN WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Augusta street	..	..	..	..	..	..	..	3	1	3	7
Adam street	..	..	..	..	..	..	..	..	2	5	7
Adamsdown square and place	..	..	..	..	..	..	..	1	1	1	4
Buzzard street	..	..	..	..	..	..	..	1	..	1	2
Cycle street	..	..	..	..	..	..	..	..	1	..	1
Comet street	..	..	..	..	..	..	2	1	1	3	7
Clyde street	..	..	..	..	..	..	..	1	1	1	3
Cumnock place and terrace	..	..	..	..	..	..	..	..	2	2	4
Clifton street	..	..	..	..	..	..	1	..	1	..	2
Cumrae street and place	..	..	..	..	..	..	..	..	..	3	3
Constellation street	..	..	..	1	1	..	..	..	..	5	7
Copper street	..	..	..	..	..	..	1	..	..	1	2
Duffryn street	..	..	..	1	..	..	..	1	..	1	3
East Dock	..	..	..	..	..	..	..	..	..	5	5
Eclipse street	..	..	..	..	..	..	..	..	1	3	4
Flat Holm	..	..	..	..	..	..	..	..	..	..	..
Ellen street	..	1	..	..	..	..	..	..	3	1	5
Fitzalan place	..	..	..	..	..	..	..	..	1	..	1
Galston street and place	..	..	..	..	..	..	..	..	1	3	4
Garth street and court	..	..	..	2	..	..	..	..	1	5	8
Grenville terrace	..	..	..	..	..	..	..	..	..	1	1
Gold street	..	..	..	..	..	..	..	..	..	3	3
Gwendoline street	..	..	..	..	..	..	..	..	..	..	..
Godfrey street	..	..	..	..	..	..	..	..	1	1	2
Gaol Lane	..	..	..	..	..	..	..	..	..	..	..
Inchmarnock street	..	..	..	..	..	..	1	..	1	3	5
Ivor street and place	..	..	..	..	..	..	..	..	..	3	3
Iron street	..	..	..	..	..	..	..	..	1	1	2
Infirmary	..	..	..	..	..	..	..	1	6	76	83
Kingarth street	..	..	..	..	..	..	..	..	1	..	1
Kerryeroy street	..	..	..	..	..	..	..	..	..	1	1
Kilcattan street	..	..	..	..	..	..	..	..	..	3	3
Longcross street	..	..	..	..	..	..	1	..	1	2	4
Metal street	..	..	..	..	..	..	..	..	1	1	2
Lead street	..	..	..	..	..	..	..	..	1	1	2
Moon street	..	..	..	..	..	..	..	..	..	2	2
Lady Margaret terrace	..	..	..	..	..	..	..	..	..	2	2
Moira street, place, and terrace	..	..	..	..	..	..	1	1	2	5	9
Meteor street	..	..	..	..	..	..	..	1	1	2	4
Morgan street	..	..	..	..	..	..	..	1	1	..	2
North William street	..	1	..	1	..	..	..	2	1	5	10
North Luton place	..	..	..	..	1	..	..	1	..	2	4
Nash street	..	..	..	..	..	..	..	..	..	1	1
Newport road	..	..	..	..	..	..	..	..	..	2	2
Orbit street	..	..	..	..	..	..	..	..	1	3	4
Pellet street	..	..	..	..	..	..	..	..	..	3	3
Planet street	..	..	..	..	..	..	..	..	..	2	2
Platinum street	..	..	..	..	..	..	..	..	1	1	2
Pendoylan street	..	2	..	..	..	..	..	3	2	3	10
Roland street	..	1	..	..	..	..	..	1	3	3	8
Roath Dock	..	..	..	..	..	..	1	..	..	6	7
Sanquahar street	..	..	..	..	..	..	..	2	..	2	4
Sandon place and street	..	..	..	..	..	..	..	..	2	9	11
Silver street	..	..	..	..	..	..	..	..	..	1	1
System street	..	..	..	..	..	..	..	..	1	5	6
Taff street	..	..	..	1	..	..	..	..	1	3	5
Tin street	..	..	..	1	..	..	..	..	1	3	5
Tyndall street	..	2	..	..	..	..	..	2	1	9	14
Victoria street	..	1	..	..	..	..	1	..	1	1	4
Windsor road	..	1	..	1	..	..	2	..	1	..	5
West Dock	..	..	..	..	..	..	..	..	..	2	2
Zinc street	..	..	..	1	..	..	1	..	1	1	4
Total	..	9	..	8	3	..	13	23	51	217	324

RIVERSIDE WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Ann street	..	..	..	..	..	..	..	..	1	1	2
Beauchamp street	..	..	..	..	..	..	..	1	..	2	3
Brook street	..	..	..	..	..	..	..	1	..	4	5
Blackstone street	..	..	..	..	..	..	..	..	..	1	1
Cowbridge road	..	..	..	..	..	..	..	..	..	3	3
Craddock street	..	..	..	2	..	..	..	1	1	7	11
Clare road and gardens	..	..	..	..	..	..	..	1	..	2	3
Lower and Cathedral road	..	..	..	1	..	..	1	..	..	6	8
De Croche place	..	..	..	1	..	..	..	..	..	..	1
Despencer street and gardens	..	..	..	..	..	..	..	1	1	1	3
De Burgh street	..	..	..	..	..	..	..	..	2	2	4
East street	..	..	..	..	..	..	..	..	..	1	1
Eldon road	..	..	..	..	..	..	1	..	2	3	6
Fitzhammon embankment	..	..	..	..	..	..	..	..	..	2	2
Gloucester street	..	..	..	..	..	..	1	..	1	1	3
Green street	..	1	..	..	..	..	..	..	..	3	4
Halket street	..	..	..	..	..	..	..	1	2	3	6
Hamilton street	..	..	..	..	..	..	..	..	..	2	2
King's road	..	..	..	2	2	..	..	3	1	8	16
Lewis street	..	..	..	..	..	..	1	..	1	1	3
Mortimer road	..	..	..	1	..	..	..	..	..	1	2
Mark street	..	..	..	..	..	..	..	..	..	4	5
Machen place	..	..	..	..	..	..	..	..	..	2	2
North Morgan street	..	..	..	..	..	..	..	..	..	1	1
Neville street and place	..	..	..	..	..	..	..	..	..	4	4
Plantagenet street	..	..	..	1	..	..	..	1	1	2	5
Pitman street	..	..	..	..	..	..	..	..	..	2	2
Plasturton avenue and place	..	..	..	..	..	..	..	..	..	2	2
Plasturton gardens	..	..	..	..	..	..	..	..	..	1	1
River Taff	..	..	..	..	..	..	..	..	..	2	2
Rennie street	..	..	..	..	..	..	..	..	..	1	1
Ryder street	..	..	..	1	..	..	..	1	..	2	4
Rolls street	..	..	..	..	..	..	..	1	1	3	5
Rawden place	..	..	..	1	..	..	1	..	..	3	5
Smeaton street	..	..	..	..	..	..	..	..	..	2	2
Sophia gardens	..	..	..	..	..	..	..	..	..	1	1
Severn road	..	..	..	..	..	..	..	..	..	1	1
South Morgan street	..	..	..	..	..	..	1	..	..	1	2
Stephenson street	..	..	..	..	..	..	..	1	..	..	1
Teilo street	..	..	..	..	..	..	..	..	..	1	1
Talbot street	..	..	..	..	..	..	..	..	..	5	5
Telford street	..	..	..	..	1	..	..	1	..	1	3
Tudor road	..	..	..	..	..	..	..	1	..	6	7
Union Workhouse	..	..	..	..	..	1	2	33	32	126	194
Wellington street	..	..	..	..	..	..	2	..	1	5	8
Wyndham crescent	..	..	..	..	..	..	..	..	..	3	3
Wyndham road	..	..	..	..	..	..	..	..	2	1	3
Wyndham street	..	..	..	..	1	..	2	..	1	7	2
Westbourne crescent	..	..	..	..	..	..	..	..	..	1	1
Total	..	1	..	10	4	1	12	48	51	244	371

CANTON WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Atlas road and place	..	..	..	..	..	..	..	..	..	1	1
Aldsworth road	..	..	..	..	..	..	..	..	2	5	7
Anglesey street	..	..	..	..	..	..	..	1	..	1	2
Alexandra road	..	..	..	..	1	..	..	..	..	6	7
Albert street	..	..	..	..	..	..	..	..	..	12	12
Bassett street	..	..	..	..	..	..	..	..	1	1	2
Brunswick street	..	..	..	..	..	..	..	..	..	2	2
Brecon street	..	..	..	..	..	..	1	1	1	6	9
Bloom street	..	..	..	..	..	..	..	..	..	1	1
Carmarthen street	..	..	..	..	..	..	..	1	..	2	3
Clive road ..	..	..	..	..	1	..	..	..	1	2	4
Canton Common	..	..	..	..	..	..	..	..	1	..	1
Commercial street	..	..	..	..	1	..	..	..	..	1	2
Coke street ..	..	..	..	..	1	..	..	..	..	1	2
Chancery lane	..	..	..	..	..	..	1	..	..	..	1
Cowbridge road	..	..	..	1	..	..	1	3	3	20	28
Cardigan street	..	..	..	..	..	..	..	..	..	..	..
Conybeare road	..	..	..	..	..	..	..	..	..	1	1
Cumberland street	..	..	..	..	..	..	1	..	2	1	4
Conway street	..	..	..	..	..	..	..	..	1	1	2
Delta street..	..	..	..	..	..	..	..	..	..	1	1
Denton road	..	..	..	..	1	..	..	..	1	2	4
Daisy street	..	..	..	..	..	..	..	..	2	1	3
Eldon road ..	..	..	..	..	..	..	3	1	2	6	12
Earle place ..	..	..	..	..	..	..	..	..	..	1	1
Ethel street..	..	..	..	..	..	..	4	..	1	4	9
Ely river ..	..	..	..	..	..	..	..	..	..	1	1
Egerton street	..	..	..	..	1	..	..	..	..	3	4
Forest road ..	..	..	..	..	..	..	..	..	..	1	1
Glynne street	..	..	..	..	..	..	1	..	..	4	5
Glamorgan street	..	..	..	..	..	..	2	1	1	2	6
Harvey street	..	..	..	..	..	..	..	..	2	1	3
G. W. R. ..	..	..	..	..	..	..	..	..	..	1	1
Gray street ..	..	..	..	..	1	..	..	..	1	6	8
Kingsland road	..	..	..	..	..	..	1	..	..	..	1
Leckwith road	..	..	..	..	..	..	1	1	2	8	12
Lyndhurst street	..	..	..	..	1	..	..	..	..	3	4
Lyttleton street	..	..	..	..	..	..	..	..	1	..	1
Llandaff road	..	..	..	..	..	..	..	2	1	7	10
Loftus street	..	..	..	..	..	..	1	..	1	1	3
Lionel road ..	..	..	..	..	..	..	2	..	..	2	4
Lincoln street	..	..	..	..	..	..	..	..	1	1	2
Mortimer road	..	..	..	..	..	..	..	..	2	3	5
Llanfair road	..	..	..	..	..	..	..	..	1	4	5
Nottingham street	..	2	..	..	..	..	1	..	..	..	3
Norfolk street	..	..	..	..	..	..	..	..	1	..	1
Market road	..	..	..	..	..	..	..	..	..	4	4
Nesta road ..	..	..	..	..	..	..	..	1	..	1	2
Picton place	..	..	..	..	..	..	1	1	2	2	6
Pontcanna terrace and place	..	..	..	1	1	..	..	..	1	6	9
Parry street	..	..	..	..	..	..	..	..	..	1	1
Penypeel road	..	..	..	..	..	..	..	1	1	6	8
Pembroke road	..	..	..	..	..	..	1	1	2	3	7
Rolls street .	..	..	..	2	..	..	2	..	1	1	6
Railway crossing	..	..	..	..	..	..	..	..	..	1	1
Rectory road	..	..	..	..	..	..	..	..	..	1	1
Radnor road	..	..	..	..	..	..	..	..	1	1	2
Rennie street	..	..	..	..	..	..	..	..	1	..	1
Romilly road and crescent	..	1	..	..	..	..	..	..	1	3	5
Surrey street	..	..	..	..	..	..	..	..	..	2	2
Severn road..	..	..	..	2	..	..	..	1	1	5	9
St. John's crescent	..	..	..	..	..	..	..	..	1	..	1
Springfield place	..	..	..	..	..	..	2	..	..	1	3

CANTON WARD—Continued.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total
Thurston street	..	..	..	..	..	..	..	..	..	2	2
Tintern street	..	..	..	..	..	..	..	..	1	..	1
Turner road	..	..	..	..	..	..	..	..	1	1	2
Westmoreland street	..	..	..	..	..	..	..	..	..	2	2
Turberville place	..	..	..	..	1	..	1	..	..	..	2
Wells street	..	..	..	..	..	..	2	1	..	2	5
Wellington street . ..	..	..	..	..	..	..	..	1	3	6	10
Westbury terrace	..	..	..	..	..	..	..	..	2	..	2
TOTALS	..	3	..	12	4	..	29	18	51	178	295

ROATH WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Agate street	..	..	..	..	..	..	..	..	..	1	1
Arthur street	..	..	..	..	..	..	..	..	1	..	1
Bradley street	..	1	..	..	1	..	..	..	1	4	7
Brick Pond	..	..	..	..	..	..	..	..	..	1	1
Bertram street	..	1	..	2	..	..	..	2	1	3	9
Bedford street	..	..	..	..	..	..	..	..	1	1	1
Blanche street	..	..	..	..	..	..	..	..	1	1	2
Booker street	..	..	..	..	..	..	..	..	1	1	2
Beresford road ..	..	..	..	..	..	..	..	..	..	3	3
Byron street	..	..	..	..	..	..	..	..	1	..	1
Broadway	..	1	..	1	..	..	..	2	3	3	10
Crofts street	..	..	..	..	..	..	..	..	..	6	6
Church terrace ..	..	..	..	2	..	..	..	..	..	..	2
Cecil street and crescent	..	..	..	1	..	1	1	..	3	9	15
Clifton street ..	..	..	..	..	..	..	1	1	..	1	3
Cottrell road ..	..	..	..	..	..	..	..	1	1	5	7
Claude road ..	..	..	..	..	..	..	..	..	1	3	4
Cyril crescent ..	..	..	..	..	..	..	..	..	..	1	1
Diamond street ..	..	..	..	..	..	..	..	..	2	7	9
Emerald street ..	..	1	..	1	..	..	..	2	5	5	14
Elm street	..	..	..	..	..	..	..	..	..	4	4
Fort street	..	..	..	..	..	..	..	..	1	1	2
Harold street	..	..	..	..	..	..	2	..	2	7	11
Helen street	..	..	..	..	..	..	..	..	4	3	7
Milton street	..	..	..	..	..	..	..	..	1	..	1
Nora street	..	2	..	2	..	..	1	1	1	6	13
Newport road	..	..	..	2	..	..	..	..	..	4	6
Oakfield street ..	..	..	..	..	..	..	..	..	..	4	4
Partridge road ..	..	..	..	..	..	..	..	..	..	4	4
Pearl street and place ..	..	1	..	2	..	..	..	2	4	14	23
Ruby street	...	1	..	..	..	..	..	..	7	5	13
Richards terrace ..	..	..	..	..	..	..	..	..	..	2	2
Sapphire street ..	..	..	..	..	..	..	..	..	1	1	2
Teal street	..	..	..	..	..	..	..	..	..	1	1
Stacey road	..	..	..	..	..	..	..	1	..	3	4
Treharris street ..	..	..	..	..	..	..	1	..	..	1	2
Tyler street	..	..	..	..	..	..	..	..	..	1	1
Upper Kincraig street	..	..	..	..	..	..	..	..	..	2	2
Theodora street ..	..	..	..	..	..	..	..	..	1	1	2
Topaz street ..	..	1	..	..	..	..	..	..	3	4	8
Spring gardens place and terrace	..	..	..	..	..	..	..	..	2	4	6
Total	..	9	..	13	1	1	6	12	48	127	217

GRANGETOWN WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Avoca place										1	1
Andrews terrace										2	2
Allerton street									3	1	4
Amherst street				2					1	5	8
Blaenclydach street										2	2
Bromfield street										2	2
Bradford street				1						3	4
Bishop street							1				1
Broomsgrove street							1			4	5
Bedwas street									1		1
Corporation road									2	2	4
Clive street				4				1	1	15	21
Cambridge street										2	2
Clarence road and terrace										2	2
Compton street							1			1	2
Cornwall road						1				6	7
Clare road							1		1	4	6
Coedcae street										3	3
Cymmer street				1				1		1	3
Court road							1	2	2	1	6
Chester street and place							1	1	1	1	4
Cambridge street							2			1	3
Dorset street and place								1	1	2	4
Devon street and place									2	1	3
Durham street										2	2
Earle street							2			1	3
Ferry road				1					2	4	7
Franklin street										1	1
Ferndale street									1	3	4
Grange Gardens										4	4
Holmesdale street							2		3	4	9
Hewell street				2				1	3	4	10
Hereford street				2			1		1	3	7
Kent street		1		1				1	2	1	6
Llanmaes street								1	1	5	7
Ludlow street							1			3	4
Lucknow street										1	1
Monmouth street								2			2
Machen place										1	1
Madras street										1	1
Maitland place										2	2
Llanbradach street				1				1	1		3
Newport street				1						1	2
North street									1		1
Noel street				1			1		1	1	4
North Clive street										4	4
Oakley street				1			1			2	4
Penhevad street				1				1	1	3	6
Penarth road				2			1	1	2	8	14
Penarth harbour										1	1
Pentrebane street								1		3	4
Paget street							2		4	6	12
Redlaver street										6	6
Rudry street				3						1	4
Rookwood street							1				1
Sevenoaks street										1	1
St. Fagans street				2						2	4
Somerset street								1	2	2	5
Stoughton street								1	1	7	9
Saltmead road							1		1	1	3
Stockland street										5	5
Sanatorium			8	26		7		1		3	45
Tynant street							1			1	2
Thomas street		1								3	4
Wedmore road							1	1	1	1	4
Van street										1	1
Warwick street							3			2	5
	2	8	51	1	8	26	17	43	167	323

SPLOTT WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Aberdovey street	..	..	..	..	1	..	..	..	1	**3**	5
Adeline street	..	1	..	..	..	..	..	..	2	5	8
Aberystwith street	..	..	..	..	..	..	..	..	1	3	4
Burnaby street	..	..	..	..	..	..	..	1	..	3	4
Bridgend street	..	..	..	..	..	..	..	..	1	1	2
Cameron street	..	..	..	..	..	..	..	..	..	5	5
Coveny street	..	..	..	..	1	..	..	1	..	1	3
Caerphilly street	..	..	..	..	..	..	..	1	..	2	3
Cornelia street	..	..	..	..	..	..	..	..	1	1	2
Carlisle street	..	1	..	2	..	..	2	..	5	14	24
Eyre street ..	..	..	..	..	..	..	..	..	..	5	5
Habershon street and place	..	..	..	2	1	..	1	2	4	5	15
Howard street and place	..	..	..	1	..	..	..	..	2	3	6
Hinton street	..	..	..	..	..	..	..	..	..	2	2
Janet street	..	1	..	..	1	..	..	1	..	3	6
Layard street	..	..	..	..	..	..	..	..	..	5	5
Llanelly street	..	..	..	..	2	..	..	..	2	7	11
Moorland road	..	..	..	..	..	..	..	..	1	5	6
Marion street	..	..	..	1	2	..	..	1	..	8	12
Milford street	..	..	..	..	..	..	..	1	..	8	9
Menelaus street	..	..	..	..	..	..	..	..	..	1	1
Ordell street	..	..	..	..	..	..	..	..	1	6	7
Portmanmoor road	..	1	..	..	..	..	..	3	4	7	15
Pontypridd street	..	..	..	1	..	..	..	..	2	5	8
Railway street	..	2	..	1	..	..	..	1	4	21	29
Swinton street	..	..	..	..	..	1	..	..	1	1	3
Sanquahar street	..	..	..	..	..	..	..	..	1	..	1
Seymour street	..	..	..	..	..	..	..	..	..	4	4
Splott road ..	..	..	..	..	..	..	..	..	1	5	6
Singleton road	..	..	..	..	..	..	..	..	1	3	4
Swansea street and terrace	..	1	..	..	..	..	..	1	3	1	6
Tenby street	..	..	..	1	..	..	..	..	..	1	2
Walker road	..	..	..	..	..	..	..	..	..	2	2
Wimborne street	..	..	..	..	..	..	1	1	1	2	5
Wilson street	..	..	..	..	..	..	1	..	..	1	2
Total ..	7	...	9	8	1	5	14	39	149	232

SMALL-POX.—No deaths were registered from this disease during the year, and no cases were notified within the Urban Sanitary District.

WHOOPING-COUGH.—Forty-three deaths were registered from Whooping-Cough during the year, as compared with thirty-five in 1897. The deaths from this disease corresponded to an annual death-rate of 0·24 per 1,000 as compared with 0·42, the average rate in the 33 large towns of England and Wales. The average annual death-rate from Whooping-Cough in the ten years 1888-97 was 0·47 per 1,000 in Cardiff, and 0·52 in the large towns for the same period.

Of the total number of deaths from this disease 20, or 46·2 per cent., were amongst children under one year of age.

SCARLET FEVER.—Eight deaths were registered from Scarlet Fever, as compared with 17 in 1897 and with 28 in 1896. The deaths were equivalent to an annual death-rate of 0·04 per 1,000. The death-rate from Scarlet Fever in 1898 in England and Wales was 0·11 per 1,000, and in the 33 large towns 0·14 per 1,000. In these towns the death-rate ranged from 0·03 in Preston, 0·04 in Plymouth and in Bristol, and 0·05 in Cardiff, in Burnley and in Bradford, to 0·23 in Liverpool, 0·26 in Wolverhampton, 0·28 in Birkenhead, and 0·29 in Salford and in Leeds.

The average annual death-rate from Scarlet Fever during the ten years 1888-97 was 0·21 in Cardiff, and 0·25 in the 33 large towns for the same period.

The total number of cases of Scarlet Fever notified within the borough, and mortality since the adoption of the Infectious Disease Notification Act, 1889, was as follows :—

Year.	Cases Notified.	Deaths.	Mortality per cent. of Cases Notified.
1890 ...	335 ...	19 ...	5·6
1891 ...	685 ...	35 ...	5·0
1892 ...	1,851 ...	87 ...	4·7
1893 ...	816 ...	39 ...	4·7
1894 ...	577 ...	8 ...	1·3
1895 ...	484 ...	8 ...	1·6
1896 ...	874 ...	28 ...	3·2
1897 ...	758 ...	17 ..	2·2
1898 ...	332 ...	8 ...	2·4

With respect to the season of the year, the relation of notifications and deaths was as follows :—

1898.	No. of Notifications.	No. of Deaths.	Mortality per cent.
First Quarter	145	2	1·3
Second Quarter	93	5	5·3
Third Quarter	57	—	—
Fourth Quarter	37	1	2·7

Of the 8 deaths from Scarlet Fever, 7, or 87 per cent., were amongst children under five years of age.

Of the total number of cases notified, 115 were amongst children under five years of age, amongst whom the proportion of deaths were 6·08 per cent., whilst the mortality of the 217 cases over five years of age was 0·4 per cent.

One hundred and eighty-nine cases, or 56 per cent., were removed to the Borough Hospital for Infectious Diseases.

The proportion of cases removed to the hospital has steadily increased, being at the rate of 31 per cent. in 1894, 43 per cent. in 1895, 48 per cent. in 1896, 50 per cent. in 1897, and 56 per cent. in 1898.

The local incidence of the disease was in each quarter of the year as follows, as shown by the notifications in each of the Registration Sub-Districts :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
West Cardiff	66	43	23	18
Central Cardiff	31	14	15	10
East Cardiff	48	36	19	9

MEASLES.—Fifty deaths were registered from measles, as compared with 75 in the preceding year. The deaths corresponded to an annual death-rate of 0·28 per 1,000, as compared with 0·56, the average rate in the 33 large towns. The average death-rate from measles during the 10 years 1888-97 was 0·44 in Cardiff and 0·59 in the large towns.

The mortality from measles varied in the several quarters of the year as follows :—

First Quarter	0·60	per 1,000 persons living
Second Quarter	0·33	„ „
Third Quarter	0·06	„ „
Fourth Quarter	0·11	„ „

Measles prevailed somewhat extensively during the first quarter of the year, especially in the Cathays and Roath Wards, and, acting on my advice, and in accordance with the Education Code, the Sanitary Authority gave notice to the Managers of three of the Public Elementary Schools to close the Infant Department of their schools for a period of one month in each case. The result of this action was satisfactory, causing a marked decrease in the number of cases in the affected districts. As will be seen in the above figures, a considerable diminution in the rate of mortality occurred in the second and subsequent quarters of the year. Measles is a disease, the fatality from which is almost entirely confined to the early periods of life: out of a total of 50 deaths during the past year, 46 occurred amongst children under five years of age. As usual, the School Attendance Officers co-operated with your Sanitary Officers in endeavouring to arrest the spread of the disease by sending weekly returns of the children absent from school on account of the presence of this disease in their homes.

These cases were visited, printed and verbal instructions as to the necessary precautionary measures were given to the parents and occupiers of the houses, and disinfection was carried out in each case under the supervision of the Sanitary Authority.

TYPHOID FEVER.—Seventeen deaths were registered from typhoid fever during the past year, as compared with twenty in 1897. The number of deaths was equivalent to a death-rate of 0·09 per 1,000, as compared with 0·20, the death-rate from fever (including typhus and enteric fever) in the 33 large towns, and with 0·18, the rate in England and Wales for the same period.

The "fever" rate ranged from 0·06 in Plymouth, 0·08 in Bristol, 0·09 in Croydon and in Cardiff, to 0·40 in Norwich and in Sheffield, and 0·48 in Sunderland.

The average annual death-rate from "fever" in the 10 years 1888-97 was 0·17 per 1,000 in Cardiff and 0·20 in the large towns.

The number of cases of typhoid fever notified within the Borough, and the number of deaths during each year, since the adoption of the Infectious Diseases Notification Act, is given below:—

Year.	Cases Notified.	No. of Deaths.	Percentage Mortality.
1890	152	23	15·1
1891	130	26	20·0
1892	118	24	20·3
1893	103	18	17·4
1894	62	7	11·2
1895	79	14	17·7
1896	74	13	17·5
1897	117	20	17·0
1898	80	17	21·2

Age incidence of the disease:—

Age periods.	Cases reported.	Deaths.
0—5	1	1
5—10	12	—
10—15	14	5
15—20	13	4
20—25	18	2
25—30	7	2
30—35	7	1
35—40	4	1
40—45	1	—
45—50	—	—
50 upwards	3	1

TABLE XXIII.

The Seasonal Incidence of the Disease upon the various Wards in the Borough, and upon the Public Institutions, was as follows in 1898 :—

Ward.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.
Central	..	..	2	..	1	1	..	..
South	1	..	..	..	1	..	1	..
Cathays	1	..	3	1	5	1	1	..
Park	4	1	1	..	2	2	1	..
Adamsdown	5	..	..	..	..	..	2	..
Riverside	..	..	1	..	4	..	1	..
Canton	1	..	..	..	2	..	1	..
Roath	8	1	2	..	4	..	..	..
Grangetown	3	..	1	..	1	..	1	1
Splott	..	.	..	..	1	..	6	1
Union Workhouse ..	1	1	..	..	3	..	3	..
Seamen's Hospital ..	1	..	1	..	..	..	..	..
Sanatorium . ..	..	1	..	1	..	3	..	2
Infirmary .. .	..	..	..	..	2	..	1	..

Fever Mortality (including Typhus, Typhoid and Continued Fevers).—Death-rates per 1,000 of the Population.

	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
England and Wales ..	0·20	0·18	0·18	0·18	0·18	0·15	0·22	0·16	0·17	0·17	0·16	0·18
33 Large Towns ..	0·22	0·20	0·20	0·19	0·20	0·15	0·24	0·19	0·20	0·19	0·18	0·20
Cardiff	0·16	0·33	0·25	0·19	0·19	0·19	0·12	0·04	0·10	0·08	0·11	0·09

Amongst the houses in which typhoid fever occurred, 29 were found to have defective sanitary arrangements. These were remedied without delay, under the supervision of the Sanitary Officers.

Of the 80 cases notified to the Sanitary Authority during the year, 28 were imported into the town from outside the district. The low death-rate which has prevailed of late years was maintained during the past year, and was satisfactory evidence of the value of the sanitary improvements of the district.

DIPHTHERIA.—129 deaths were registered from diphtheria during the year 1898 as compared with 90 in 1897 and with 55 in 1896.

The number of deaths was equivalent to an annual death-rate of 0·72 per 1,000 persons living.

The diphtheria death-rate in the 33 large towns averaged 0·31 per 1,000, ranging from 0·06 in Sunderland, 0·07 in Bolton, in Oldham, in Preston, in Bradford, and in Hull, to 0·43 in Wolverhampton and in Birkenhead, 0·54 in Leeds, 0·63 in West Ham, 0·73 in Cardiff, and 1·22 in Swansea.

The average annual death-rate from this disease during the decennial period 1888-97 was 0·31 in Cardiff and in the 33 large towns.

The number of cases of diphtheria reported to the Sanitary Authority in 1898 amounted to 940, being the highest number since the adoption of the Infectious Disease Notification Act in 1890. The case mortality, or proportion of deaths to cases reported, was exceedingly low, being at the rate of 13 per cent., as compared with 17 per cent. in 1897, and with 19 per cent. in 1896.

The local incidence of the disease, and also the number of cases reported at age periods during each quarter of the year is shown in the following tables:—

TABLE XXIV.

DIPHTHERIA, 1898.

WARDS.	Cases reported per 1,000.	Death rate per 1,000.
Central	2·77	0·30
South	4·40	0·52
Cathays	3·87	0·57
Park	2·56	0·23
Adamsdown	3·44	0·57
Riverside	7·00	0·53
Canton	6·12	0·57
Roath	7·88	0·87
Grangetown	9·40	1·25
Splott	6·60	0.54

TABLE XXV.

DIPHTHERIA, 1898.

Age Periods of Reported Cases.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under three years ..	51	22	17	28	118
Three and under thirteen ..	211	138	92	139	580
Thirteen and under twenty-five ..	56	26	26	31	139
Twenty-five and upwards ..	39	27	10	27	103
Total ..	357	213	145	225	940

TABLE XXVI.—DIPHTHERIA, 1898.

WARD.	Total number of Cases of all Ages.	Under Three Years. Percentage.	Three and under Thirteen. Percentage.	Thirteen and under Twenty-five. Percentage.	Twenty-five and upwards. Percentage.
Central	36	11·1	44·4	19·4	25·0
South	50	16·0	68·0	12·0	4·0
Cathays	67	11·9	62·6	14·9	10·4
Park	66	9·0	63·6	16·6	10·6
Adamsdown	48	12·5	50·0	29·1	8·3
Riverside	131	9·9	70·9	9·1	9·9
Canton	127	11·0	55·9	18·1	14·9
Roath	117	11·1	65·8	14·5	7·6
Grangetown	188	13·2	60·6	13·8	7·9
Splott	110	10·0	60·0	10·9	18·1

TABLE XXVII.—Diphtheria, 1898.

Ward.	Cases reported.	Deaths.	Mortality per cent.
Central	36 ..	4 ..	11·1
South	50 ..	6 ..	12·0
Cathays	67 ..	10 ..	14·9
Park	66 ..	6 ..	9·0
Adamsdown	48 ..	8 ..	16·6
Riverside	131 ..	10 ..	7·6
Canton	127 ..	12 ..	9·4
Roath	117 ..	13 ..	11·1
Grangetown	188 ..	25 ..	13·2
Splott	110 ..	9 ..	8·1

The marked prevalence of Diphtheria in South Wales during recent years calls for the attention of the Sanitary Authorities in the various districts under their control. So far as Cardiff is concerned, I have to lay before you the following facts :—The number of notified cases of Diphtheria which rose from 235 in the fourth quarter of 1897 to 357 in the first quarter of 1898 declined to 213 in the second quarter and to 145 in the third quarter of this year, but rose again in the fourth quarter to 225. The mortality from Diphtheria in Cardiff was below the average in the large towns of England and Wales during the ten years ending 1896, being at the rate of 0·27 as compared with 0·29 per 1,000, but was above the average in the years 1897 and 1898, being in 1897 at the rate of 0·53 as compared with 0·31 per 1,000 in the large towns, and in 1898 0·72 as compared with 0·31.

The following table gives the death-rate per 1,000 of the population in Cardiff, and the average rate in the 33 large towns in each quarter of the year 1898 :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
Cardiff	1·17	0·83	0·38	0·51
33 Large Towns ..	0·33	0·24	0·24	0·41

In considering the complex causes which may have contributed to the recent prevalence of Diphtheria in Cardiff, it is necessary to bear in mind that Diphtheria is a disease which spreads mainly by the influence of personal infection, and that any cause increasing the opportunities of personal contact of the healthy with the unhealthy must of necessity favour the extension of the disease. Such a cause may be found in the rapid increase in the population of this locality, producing a greater aggregation of persons upon a given area, more particularly of children, at ages most susceptible to the infection. The density of the population is given in another part of this Report, as the average number of persons living upon an acre of ground, and it was seen that this proportion has increased in Cardiff from 14·7 persons per acre in 1888 to 29·3 in 1898. It is thus obvious that the opportunities of spreading disease by personal infection are greater now than they were ten or twelve years ago. At the same time greater facilities of communication now exist between all parts of the kingdom. A distinct relation therefore is to be expected between Diphtheria prevalence in Cardiff and the prevalence of the disease in neighbouring localities having a constant railway communication with this town, and this is found to be the case.

A certain peculiarity is noticed in the distribution of the Diphtheria mortality in England.

The increase in the whole country is due solely to an increase in the large towns. In the country districts fatal Diphtheria has diminished in amount. In 1855-1860 the rate was 123 per million in the large towns, as compared with 249 in the rural districts. In 1861-1870 the large towns still had proportionately less fatal Diphtheria than the country districts, the rate being in the large towns 163 as compared with 223 per million, but in 1881-1890 the relation is entirely changed, the death-rate being 190 in the large towns as compared with 159 in the rural districts. This fact seems again closely connected with a gradual alteration in the distribution of populations with the ever-increasing immigration from rural to urban districts, producing a greater aggregation and density of the population in large cities and towns. Coincident with the increase in Diphtheria

there has been a decrease in other diseases of the zymotic class; this is especially noticeable in the diminished mortality from Enteric or Typhoid Fever, a disease recognised by all to be closely associated with bad sanitation, essentially a filth disease. The following table gives the death-rates from Diphtheria, Enteric Fever and Scarlet Fever respectively in Cardiff since 1881, showing the increasing rate in the case of Diphtheria and the decreasing rate in the case of Scarlet Fever and Enteric Fever:—

TABLE XXVIII.

DEATH-RATE PER MILLION—CARDIFF.

	1881-90.	1886-95.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Diphtheria ..	200	250	260	260	680	460	360	370	530	725
Enteric Fever ..	330	230	190	190	190	50	100	80	110	95
Scarlet Fever ..	410	210	270	620	270	50	50	170	100	45

If defective sanitation were responsible to any large extent for the development and spread of diphtheria we should expect that its influence would be shown upon the general health of the community, and that a high general death-rate would result, particularly an increased prevalence of enteric fever. The reverse has been the case; a high rate of mortality from diphtheria has been coincident with a low general death-rate and with a low death-rate from enteric fever. During the years of diphtheria prevalence, 1897 and 1898, the general death-rate in Cardiff was respectively 14·8 and 14·7 per 1000, the lowest on record, and as compared with the other large towns, the lowest with the exception of Croydon.

The local incidence of scarlet fever appears to bear some relation to that of diphtheria. This is shown in the following Table, which gives the proportion of notified cases in each disease per 1,000 of the population in the registration sub-districts of Cardiff during the three years 1896-98, but it must be borne in mind that although scarlet fever spreads also by personal infection, it is for many reasons much more under the control of sanitary preventive measures than diphtheria. An increasing proportion of cases of scarlet fever have been isolated in the Borough Hospital, whereas the hospital accommodation for diphtheria cases has been very limited, and therefore one of the principal means of arresting the spread of the disease has not been available.

TABLE XXIX.

Registration Sub-Districts.	1896.		1897.		1898.	
	Scarlet Fever.	Diphtheria.	Scarlet Fever.	Diphtheria.	Scarlet Fever.	Diphtheria.
West Cardiff ..	5·9	2·4	7·6	5·0	1·1	7·5
East Cardiff ..	5·5	1·8	3·4	2·5	1·7	5·1
Central Cardiff .	3·4	1·0	1·8	1·8	2·8	3·6

The Borough of Cardiff is divided artificially into three registration sub-districts, West Cardiff sub-district being entirely on the western side of the River Taff, the Eastern and Central sub-districts being both on the eastern side.

The sewers in the East and Central sub-districts discharge by outfalls directly into the Bristol Channel near the eastern boundary of the Borough, and have no connection whatever with those on the western side of the river, which discharge into the tidal estuary of the Taff. Both systems are tide-locked at the outfalls twice in the twenty-four hours. The Western outfall is

somewhat unsatisfactory, both as regards situation and capacity, and at times the lower parts of this district have suffered from this defect. With this exception, both systems are very similar in construction—the sewers are well ventilated and flushed—but owing to the physical conformation of the locality, the gradients are, for the most part, low. On the whole, the complaints of smells from the ventilators, which, with a very few exceptions, open on to the surface of the road, are not numerous, and not more so on one side of the town than on the other. I see no reason, therefore, for attributing the peculiar distribution of diphtheria to any abnormal or defective condition of the sewers in the districts chiefly affected. It is possible that the greater incidence of the disease in the Western and Eastern Sub-Districts may be connected with the age distribution of the population in the different parts of the town.

Diphtheria is essentially a disease of childhood, the facilities for the spread of infection will be increased in communities in which the proportion of young children is high, and especially when such proportion has rapidly increased. There is good reason for believing that the Western and Eastern Divisions contain a greater proportion of young children than the Central District and that, therefore, they would offer special facilities for the spread of diphtheria by personal infection. From their position these districts would naturally contain the greater part of the new and constantly increasing localities, whereas the Central District has comparatively limited opportunities for extension. In evidence of this it may be mentioned that during recent years the birth-rate has been higher in the Western and Eastern Districts than in the Central, and that in these districts the increase in the number of inhabited houses has been much greater. The tables published in the census returns do not contain the age distribution of the population in the municipal wards, or in the registration sub-districts, so that it is impossible from the available data to estimate the proportion which the juvenile population bears to the entire population in any of these divisions of the town at the present time. But through the courtesy of Dr. John Tatham, of the General Register Office, Somerset House, who was good enough to furnish me with some unpublished tables, I was able to obtain the age distribution in groups of *enumeration districts* according to the census of 1891. These groups are not, however, coterminous with the wards, but consist each of parts of different wards. Taking one group, which consists of 12,955 persons at all ages living entirely in the Central Registration Sub-district, and another group of 14,677 persons living in the West Registration Sub-district, it is found that the proportion of persons under fifteen years of age was 33·5 per cent. in the former, as compared with 41·5 per cent. in the latter district, the opportunities, therefore, for the spread of infection would be greater in the Western than in the Central District on account of the greater proportion of young children in the former district. As none of the enumeration districts consist entirely of inhabitants of the East Registration Sub-district, it is impossible to give the proportion in this division.

TABLE XXX.

The following table, which refers to the years 1893-1898, inclusive, shows the attack-rate and death-rate from diphtheria in each district per thousand persons living, calculated on the census population of 1891 :—

Year.	West Cardiff.		East Cardiff.		Central Cardiff.	
	Death-rate.	Attack-rate.	Death-rate.	Attack-rate.	Death-rate.	Attack-rate.
1893	0·2	0·2	1·3	5·5	0·6	2·6
1894	0·4	1·6	0·6	4·8	0·3	1·6
1895	0·4	1·4	0·5	3·6	0·1	0·8
1896	0·9	3·4	0·2	2·6	0·1	1·1
1897	1·4	7·3	0·3	3·3	0·3	1·8

With respect to the above death-rates it must be noticed that as they are calculated on the census population of 1891 they are, in the case of the Western and Eastern Districts, probably too high owing to the more rapid increase in the population in these districts than in the Central District, although the relative position of the rates would remain the same if calculated on the estimated population for these years. The type or severity of the disease, as shown by the proportion of deaths to cases notified, varied largely in the different districts.

The explanation of this diversity is to be found in the difference of the ages of those attacked in the various localities (diphtheria being a disease in which 95 per cent. of the total deaths occur amongst children under fifteen years of age). This will be seen in the following table, which gives the case mortality and the age incidence or proportion of cases under thirteen and over thirteen years of age in certain Wards since 1894:—

	Wards.	Case Mortality.	Cases notified under Thirteen.	Over Thirteen.
1894	Canton	45·4 per cent.	82·0 per cent.	18·0 per cent.
	Splott	7·5 „ „	61·0 „ „	38·0 „ „
1895	Grangetown ...	37·0 „ „	78·0 „ „	22·0 „ „
	Splott	6·0 „ „	58·0 „ „	42·0 „ „
1896	Canton	31·5 „ „	85·0 „ „	14·8 „ „
	Splott	9·6 „ „	58·0 „ „	42·0 „ „
1897	Grangetown ...	26·7 „ „	78·0 „ „	22·0 „ „
	Splott	6·6 „ „	46·0 „ „	54·0 „ „

TABLES XXVI. and **XXVII.** give the percentage mortality and age incidence in each Ward during the year 1898, and show generally that a high case mortality is coincident with a high proportion of cases notified under thirteen years of age.

Bearing upon the influence of personal infection as an important factor in the spread of diphtheria, it is to be noticed that there has been generally a close connection between the prevalence of this disease in Cardiff and its prevalence in those neighbouring localities having an extensive communication with this town by means of railway passenger traffic.

At ordinary times the inhabitants of the Rhondda Valley and of the South Wales Colliery Districts are constantly passing in large numbers to and from Cardiff, and one might naturally expect that this would lead to the dissemination of the disease. In the Annual Summary of the Registrar General for 1897, relating to the statistics of 100 large Urban Districts, it is stated that "the highest diphtheria death-rates for that year were 0·62 in Rhondda and in Merthyr-Tydfil, 0·63 in Great Yarmouth, 0·64 in Willesden, 0·76 in Worcester, 0·82 in Aberdare, 0·87 in Gloucester, and 2·62 in Longton." The diphtheria death-rates were as follows in Cardiff as compared with the under-mentioned districts during 1897 and 1898:—

Diphtheria Death-Rate per 1000 persons living.

	1897.	1898.
London	0·51	0·39
33 Large Towns ..	0·31	0·31
Rhondda Urban District ..	0·62	1·10
Merthyr-Tydfil	0·62	0·55
Aberdare	0·87	1·85
Cardiff	0·52	0·72

The accompanying Charts hows the number of notifications of diphtheria in each week in the Rhondda and Cardiff Urban Districts respectively, and it is interesting to notice the marked fall in diphtheria prevalence which took place simultaneously in all these districts at a time which closely corresponded with the interruption in the passenger and railway traffic between these localities, consequent upon the strike of the colliers in these districts.

With regard to the preventive measures which should be adopted with a view of checking the spread of diphtheria, the special incidence of the disease upon children under thirteen years of age shows that it is of the first importance to prevent the attendance at school of children suffering from any form of sore throat and of children from infected houses. This is of course done at present in those cases where diphtheria is notified to the Sanitary Authority. But diphtheria is a disease which often occurs in a mild form; it is then not recognised by parents, who in ignorance allow children who may be suffering slightly to attend school and mix with others, and so spread the infection. In this matter the school authorities might be urged to undertake an efficient system of medical examination of pupils, and a rigid exclusion of all those who would be likely to spread infection, working in this matter in co-operation with the Sanitary Authority.

It is obvious that the prompt isolation of infected children would very often prevent a severe outbreak of disease, and lead in the long-run to the increase in the average attendance at school. Too little attention is paid to school hygiene generally, particularly as regards ventilation and overcrowding. The structural arrangements may be, as they generally are in the public elementary schools, satisfactory, but a more complete medical or sanitary supervision of the scholars themselves, and of class-rooms during school hours, is much to be desired, and would, I think, be of advantage to schools in particular and to the public in general. It would be inconvenient and impossible in a large town for the medical officer of health to undertake himself the work of medically inspecting children on admission to school; but he could, I presume, act as adviser in health matters to the school authority, and such inspection could be performed by local medical practitioners acting under the direction of the Medical Officer of Health. Such a joint system would bring the School Authority and the Sanitary Authority into closer co-operation, and obviate any possible friction between the two authorities.

With respect to any further preventive measures which might be undertaken independently by the Sanitary Authority itself, they should, I think, be in a position to assist medical practitioners in forming an accurate diagnosis of infectious diseases by carrying out, as a part of the public health work of the district, bacteriological examinations in connection with such diseases. This important subject was recently discussed at the meeting of the British Medical Association at Edinburgh, where a resolution was passed "inviting the Council of the Association to take steps to press upon the Legislature the urgent necessity of providing each sanitary district with a bacteriological laboratory, available for gratuitous examination of morbid products for the purpose of the early diagnosis of infectious disease."

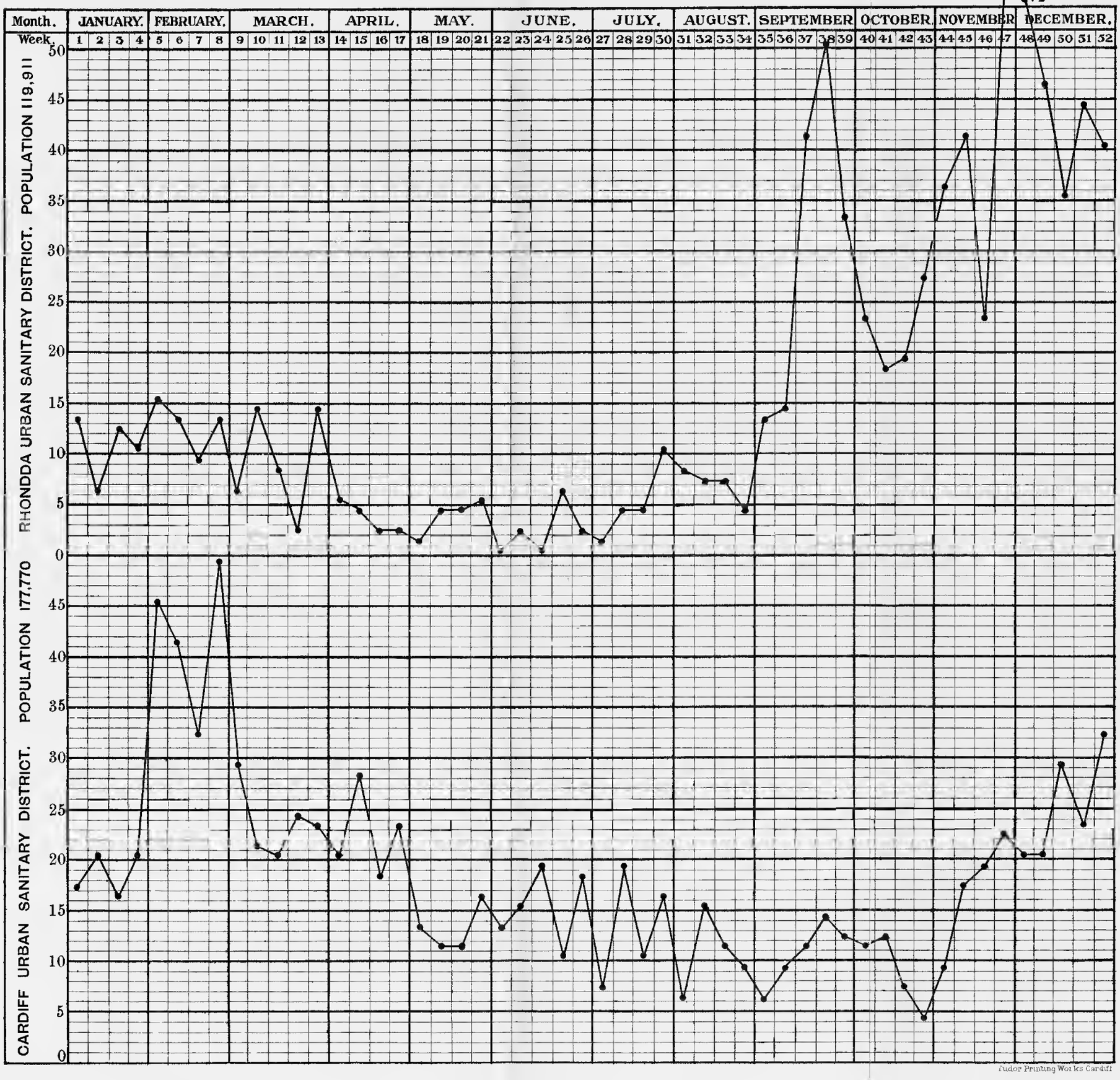
I have already alluded to the difficulties that exist in the recognition by the general public of the early symptoms of diphtheria. The difficulty of diagnosing the disease by medical men is also often great, and can only be cleared up by a careful bacteriological examination. A case mortality, varying from 45 per cent. in one part of the town to 6 per cent. in another part, indicates that the disease was very different in character in these different localities, and it is probable that a large proportion of the adult and mild cases which occurred in those districts in which the mortality was very low would, with a more extended use of bacteriological methods of diagnosis, have proved not to have been diphtheria at all.

Hospital isolation in cases of diphtheria has not yet been tried on a scale which could give it a fair chance as a preventive measure, but much may be hoped for from the increased accommodation shortly to be provided in this district, which will allow of the proper isolation of a far larger proportion of cases than has hitherto been possible.

DIARRHŒA.—The deaths from diarrhœa numbered 149, as compared with 134 in 1897, and were equal to an annual death-rate of 0·84 per 1,000 of the population, as compared with 1·22 the average rate in the 33 large towns. The average annual death-rate from diarrhœa in the 10 years 1888-97 was 0·86 in the large towns, and 0·82 in Cardiff for the same period.

The diarrhœal death-rate in 1898 varied from 0·49 in Swansea, 0·64 in Halifax, 0·76 in Oldham, 0·84 in Cardiff, and 0·86 in Portsmouth, to 1·89 in Sheffield, 1·95 in Wolverhampton, 2·05 in Preston, and 2·16 in Salford.

Weekly Notifications of Diphtheria, 1898.


94
72
Month.
JANUARY.
FEBRUARY.
MARCH.
APRIL.
MAY.
JUNE.
JULY.
AUGUST.
SEPTEMBER
OCTOBER.
NOVEMBER
DECEMBER.
Week.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
RHONDDA URBAN SANITARY DISTRICT. POPULATION 119,911
0 5 10 15 20 25 30 35 40 45 50
CARDIFF URBAN SANITARY DISTRICT. POPULATION 177,770
0 5 10 15 20 25 30 35 40 45

Tudor Printing Works Cardiff

The distribution of diarrhœa in Cardiff, according to the season of the year and to the various age periods, was as follows during the year 1898 :—

TABLE XXXI.

Deaths from Diarrhœa.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Under one year	3	4	104	16	127
One and under five	—	2	6	2	10
Five and under fifteen	—	—	—	—	—
Fifteen and under twenty-five ..	—	—	—	—	—
Twenty-five and under sixty ..	1	—	3	2	6
Sixty years and upwards ..	1	—	2	3	6
Total	5	6	115	23	149

The relation between the temperature of the air and the diarrhœa mortality during the third quarters of the ten years, 1889-98, is shewn in the following Table : —

TABLE XXXII.

3rd Quarters. Year.	Death-rate from Diarrhœa.	Mean Temperature.
1889	1·7	59·0
1890	2·9	59·7
1891	0·8	57·8
1892	2·3	60·4
1893	2·5	61·8
1894	0·5	57·0
1895	1·0	59·5
1896	2·4	58·9
1897	2·6	59·3
1898	2·5	60·3

TABLE XXXIII.—Death-rate per 1,000 from classes of disease, 1885-98.

YEAR.	Class IV. Constitutional Diseases.		Class V. Development Diseases.		Class VI. Local Diseases.	
	Cardiff.	England and Wales.	Cardiff.	England and Wales.	Cardiff.	England and Wales.
1885	4·122	3·340	3·091	1·614	10·924	10·007
1886	4·305	3·370	3·563	1·638	10·373	10·040
1887	3·203	3·213	3·442	1·578	10·384	9·867
1888	3·306	3·166	2·947	1·569	9·275	9·643
1889	3·690	3·223	1·446	1·550	9·164	9·394
1890	3·498	3·374	1·692	1·611	10·101	10·364
1891	3·645	3·339	1·366	1·690	11·398	10·807
1892	3·517	3·168	1·240	1·624	7·791	9·801
1893	3·470	3·210	1·257	1·593	8·261	9·536
1894	3·143	3·015	1·208	1·462	7·280	8·427
1895	3·148	3·169	1·253	1·678	8·423	9·433
1896	2·624	3·001	1·180	1·536	8·439	8·536
1897	2·728	3·067	1·046	1·613	6·732	8·651
1898	2·632	Not yet published	1·113	Not yet published	6·536	Not yet published

TUBERCULOSIS.—It is now generally recognized that tuberculosis is an infectious disease; that it may be communicated from person to person or from the lower animals to man by means of the tubercle bacillus, which may be present in the air as dust from the dried expectoration or discharges from tuberculous individuals, or which may be present in the flesh or organs of animals which are used as food.

When the bacillus enters the body through the respiratory organs it usually sets up in the first instance a tubercular disease of the lungs, known as phthisis or consumption; when it enters the digestive system with food, such as meat or milk, the disease usually commences or is confined to that system, and in this case general tuberculosis, or more particularly the disease known as tabes mesenterica, may result. In the first place it is necessary to notice with satisfaction that the death-rate from all forms of tubercular disease has been decreasing throughout the country for many years past. This decline in the aggregate mortality has, however, been largely due to the very marked decrease in the mortality from phthisis, or that form of the disease which is usually communicated by aerial infection. Amongst the influences which have contributed largely towards this reduction in the amount of tubercular disease the most important have been the improvement in the conditions under which people live and work, the better housing and food of the working classes, the prevention of overcrowding, the removal of damp from the sites of dwellings, and from the soil generally by drainage operations. It has been conclusively shown by numerous experiments that exposure to sunlight and fresh air has a most destructive action on the tubercle bacillus; hence the importance of wide streets and well ventilated houses and workrooms. The following tables show the reduction which has taken place in the mortality from all forms of tubercular diseases and from phthisis and tabes mesenterica respectively in England and Wales in several periods 1851-95:—

Death Rate per Million Persons Living.

Period	All forms of Tuberculosis. All ages.	Phthisis. All ages.	Tabes Mesenterica. All ages.	Tabes Mesenterica. Under 1 year.
1851-60. ...	3483	2679	260	3169
1861-70 ...	3240	2475	295	3800
1871-80 ...	2863	2116	318	4467
1881-85 ...	2540	1830	289	4356
1886-90 ...	2322	1635	265	4462
1891-95 ...	2122	1463	238	4046

From the above it will be seen that, notwithstanding the decline in the mortality from phthisis and from all forms of tuberculosis, in the aggregate there has been a very small reduction in the mortality from tabes mesenterica at all ages, and an actual increase amongst children under one year of age.

The death-rate from tubercular diseases in Cardiff is given below:—

Death-rate per 1,000 from "All forms of Tuberculosis" from Phthisis and from Tabes Mesenterica, at all ages, in Cardiff, 1879-1898:—

	All forms of Tuberculosis.		Phthisis.		Tabes Mesenterica.	
1879 ...	2·72		2·04		0·14	
1880 ...	3·21		2·12		0·23	
1881 ...	2·96	2·89	2·04	2·09	0·23	0·18
1882 ...	2·86		2·11		0·14	
1883 ...	2·67		2·03		0·15	
1884 ...	2·97		2·38		0·14	
1885 ...	3·58		2·48		0·10	
1886 ...	2·78	2·73	2·12	2·17	0·21	0·15
1887 ...	2·72		2·00		0·20	
1888 ...	2·80		1·94		0·12	
1889 ...	2·79		1·76		0·18	
1890 ...	3·18		1·75		0·24	
1891 ...	2·78	2·76	1·83	1·84	0·18	0·19
1892 ...	2·70		1·77		0·18	
1893 ...	2·66		1·61		0·19	
1894 ...	2·42		1·52		0·08	
1895 ...	2·37		1·55		0·13	
1896 ...	1·94	2·07	1·24	1·32	0·13	0·09
1897 ...	1·98		1·21		0·08	
1898 ...	1·80		1·14		0·06	

From the foregoing statistics it will be seen that as regards Cardiff the sanitary improvements which have taken place during the past ten years have materially reduced the death-rate from pulmonary phthisis. But it must not be forgotten that a marked reduction had taken place in periods antecedent to the above.

Many years ago Sir John Simon in his ninth report to the Privy Council (1866), in referring to the sanitary improvements of large towns points out that "the drying of the soil, which has in most cases accompanied the laying of main sewers in the improved towns, has led to the diminution more or less considerable of phthisis," and he shows as the results of Dr. Buchanan's inquiries that, after improved land drainage, the death-rate from phthisis in Cardiff has fallen as follows:—

	Period 1847-54. Before Drainage Works.		Period 1859-66. After Drainage Works.
Phthisis death-rate per 1000 ...	3·46	...	2·85

Improved sanitation has apparently had little or no effect in controlling tuberculosis of the intestines and digestive system, as it attacks infants and young children under the vague term tabes mesenterica, and in which the infection is undoubtedly conveyed by food. An indication is thus given as to the direction which preventive measures should in this case take. The food of infants and young children largely consists of Milk, this is especially the case in those under one year of age, amongst whom the fatality is excessive. Uncooked cows' milk is certainly more extensively used than any other substance as a food for infants. The suspicion which has always attached to this kind of food as a means of conveying disease has been reduced to a certainty in the case of tuberculosis. The tubercle bacillus has been found frequently in cows' milk, and numerous experiments have been made by competent observers showing that when animals are fed upon milk from tuberculous cows, they almost invariably become tuberculous. We may assume therefore that the same effect will be produced upon the human being. In the case of tuberculosis, therefore, the control of the milk supply to the community by the Sanitary Authority is of the first importance as a preventive measure. At present a Sanitary Authority has power of supervision over the sanitary condition of cowsheds, dairies and milkshops; it has power to have samples of milk analysed, and when adulteration is detected to take proceedings against the offender under the Sale of Food and Drugs Act, but there is no general power to prevent the sale to the public of milk from tuberculous cows. The Infectious Diseases Prevention Act, 1890, gives powers to Sanitary Authorities enabling them in certain cases to prevent the sale of milk in their district when the Medical Officer of Health has reason to believe that infectious disease has been caused or is likely to be caused by the consumption of the milk in question. The section in the above Act is so cumbrous and inconvenient of application that it is not likely often to be put into action, and moreover, it does not apply to tuberculosis, which is not an infectious disease within the meaning of the Act. Again, the Dairies, Cowsheds and Milkshops Order of 1885 contains a provision against selling milk from cows suffering from certain diseases, but tuberculosis is not one of these diseases. It is obvious that further powers are required dealing with this particular disease. The Royal Commission on Tuberculosis of 1896 point to the Glasgow Police (Amendment) Act 1890 as an example in the matter of the control of milk supply, which deserves consideration in England and, doubtless, if any general legislation follows upon the deliberations and report of this Commission, it will be upon the lines of this Act. The provisions of Sec. 24—27 of the Glasgow Act enable the Medical Officer of Health to enter and inspect any cowshed and to examine any cow kept therein in order to determine whether such cow suffers from any disease which might render the use of the milk dangerous or injurious to health. The Act gives power to prohibit the sale of milk from any cow which is suffering from tuberculosis or any disease which may render the use of such milk dangerous or injurious to health. The Commissioners also make some valuable recommendations relating to the question of compensation in cases where seizure of milch cows would take place under the powers which might be hereafter conferred upon the Local Authorities, but as these and other recommendations dealing with milk supply are awaiting Parliamentary sanction, it remains for your Authority to carry out as heretofore the powers which you possess under the existing laws.

In the meantime several Local Authorities in England are following the example of Glasgow. Manchester, Salford, and Leeds propose to insert clauses in local Acts giving powers similar to those contained in the Glasgow Act. I would, therefore, advise your Authority to take the first opportunity which presents itself of obtaining the necessary powers in a local Act of Parliament.

It is true that private individuals have the power of preventing all danger from tuberculous infection by milk by the simple process of boiling or sterilizing this article of food; and the Sanitary Authority might, with advantage, make this fact more widely known by means of pamphlets or printed instructions, bearing in mind that such action would by no means relieve the purveyor of milk of his responsibilities in respect to supplying milk from cows free from all taint of tuberculosis or other dangerous disease. The managers of all institutions receiving children, such as the Cardiff Infirmary or the Union Workhouse, might be advised, without creating any panic, to supply to the inmates and patients milk which has been treated this way. Further, they might be asked to insert a clause in their milk contracts requiring the contractor to guarantee that the milk supplied under contract is obtained from cows which have been ascertained to be free from tuberculosis by means of the tuberculin test. The adoption of this latter suggestion by the managers of institutions would have the further advantage of rendering this valuable test more popular amongst Cattle Dealers and Dairymen, and of encouraging its more general use.

Tuberculous disease has been proved to be extremely prevalent amongst cattle; it has been estimated that about 20 per cent. of the beasts slaughtered for food are more or less tuberculous. The danger of contracting tuberculosis from the consumption of infected meat is however much less than in the case of milk, although the danger undoubtedly exists. Having so recently reported to you upon the subject of meat inspection I have little to add here, but may mention that the system of inspection which you have adopted has been eminently successful, and that it is now practically impossible for meat from diseased animals to find its way into the market from either of your public abattoirs.

Some difference of opinion exists amongst experts as to the extent of tuberculous disease which may justify the seizure of a carcase as unfit for food. The recommendations of the Royal Commission of 1896 upon this point are of extreme value, and as they are likely to form a guide for future action on the part of Medical Officers of Heath, it may be convenient to submit them to you in this report. They are as follows:—"The entire carcase and all the organs may be seized—

(*a*) When there is miliary tuberculosis of both lungs.

(*b*) When tuberculous lesions are present in the muscular system or in the lymphatic glands embedded in or between the muscles.

(*c*) When tuberculous lesions exist on the pleura and peritoneum.

(*d*) When tuberculous lesions exist in any part of an emaciated carcase."

"The carcase if otherwise healthy shall not be condemned, but every part of it containing tuberculous lesions shall be seized—

(*a*) When the lesions are confined to the lungs and the thoracic lymphatic glands.

(*b*) When the lesions are confined to the liver.

(*c*) When the lesions are confined to the pharyngeal lymphatic glands.

(*d*) When the lesions are confined to any combination of the foregoing, but are collectively small in extent."

Further, the Commissioners recommend, with the view of eliminating tuberculosis from cattle, that the Board of Agriculture give Stock Owners the opportunity of testing their animals by furnishing them gratuitously with a supply of tuberculin, and with the services of a Veterinary Surgeon, free of cost, for the purpose of using this test. The Commissioners also recommend that when a Local Authority has provided a public slaughter-house, power should be given them to close private slaughter-houses, and that Authorities should appoint properly qualified Meat Inspectors.

Sir Richard Thorne, the Chief Medical Officer of the Local Government Board, says: that for the prevention of tuberculosis in man it is necessary "that all Sanitary Authorities should provide public slaughter-houses under the direct control of the Authority and their officers, and that they should adopt measures which will, as soon as practicable, provide a class of skilled Meat Inspectors." "That public slaughter-houses officered by skilled Inspectors and supervised by Medical Officers of Health, are urgently required."

Your Authority having already carried out, as far as they have power, these recommendations, so far as they relate to the provision of public slaughter-houses, and the appointment of a qualified Veterinary Surgeon as Meat Inspector, I have only to suggest, pending further legislation, that Stock Owners should be encouraged to use the tuberculin test and to separate the unhealthy from the healthy stock, and in their own interest as well as in that of the public, to make every effort to eliminate tuberculosis from their herds.

Having dealt with that form of the disease which may be conveyed to man by the consumption of tuberculous milk and meat, I have now to refer to the measures which may be adopted with a view of preventing tuberculosis being conveyed through the air by means of the dried sputum or discharges from a tuberculous person or animal. It has been remarked by a very distinguished physician that the question resolves itself into that of the disposal of the sputa.

It is obvious that a Sanitary Authority cannot undertake to carry into effect such a measure.

The family Medical attendant has in such a case unrivalled opportunities of disseminating good advice and of seeing that such advice is acted upon, that to him must be largely left this duty. There is, however, a large number of persons suffering from chronic phthisis upon whom no medical man is in regular attendance. To these (and to others when requested) it might be advisable that printed instructions should be sent by the Sanitary Authority. But such a course involves the notification to the Authority of cases of tuberculous disease, a proceeding fraught with very considerable difficulty, and, in its compulsory form, I believe, totally inapplicable. There is, however, no reason why medical practitioners should not be invited to send to the Local Authority an intimation of such cases under their care, when they think any useful end can be gained thereby. I have, therefore, to advise that such an invitation be sent to all medical men practising in this town, and I conceive that it will be the duty of the Sanitary Authority to undertake disinfection of premises and articles when requested to do so, more particularly after the recovery or death of the patient.

In a recent lecture on "The Administrative Measures for the Control of Tuberculosis," Sir Richard Thorne points out that "any action by way of notification of this disease should for the present at least be under a voluntary and not a compulsory system, and such action might well be supplemented by the construction, out of the public funds, of Sanatoria for the temporary isolation of persons suffering from this infectious disease, and who during their sojourn in these establishments would acquire habits of dealing with infectious materials which would tend to prevent that spread of infection which was now so largely due to the want of simple and inexpensive precautions."

Lastly, I would again call the attention of the Sanitary Authority to the desirability of making provision for bacteriological work as part of the system of Public Health administration.

The provision of facilities for such work must be an important part of any complete system of dealing with tuberculosis. In a report on Tuberculosis issued by the Council of the British Medical Association, it is pointed out "that the provision of 'bacteriological laboratories' "at the 'public expense' by 'all' Sanitary Authorities does not necessarily mean that each and "every Sanitary Authority should provide a separate laboratory. These establishments might be "provided jointly, or established institutions might be utilized for the purpose, the expense in "each case being defrayed by the Sanitary Authority for whom the investigation is carried out. "Many institutions of the character referred to are in existence, and appear to be most suitable to

"do the work indicated." The present time would therefore seem very desirable for entertaining the proposal which has been made to your Authority to establish, in conjunction with some other public bodies, a properly equipped bacteriological laboratory as part of your Public Health Department.

The recommendations which I have to make and to submit to your consideration may be summarised as follows under the following heads:—

(1) *To prevent the spread of infection amongst human beings—*

(*a*) The adoption of a system of voluntary notification of cases of tuberculosis.

(*b*) The disinfection by the Sanitary Authority of rooms and articles infected by tuberculous patients.

(*c*) The distribution by the Sanitary Authority of printed instructions relating to the infectious nature of the disease.

(*d*) The continuance of general sanitary improvements, more especially the prevention of over-crowding, the improvement of ventilation of public and private buildings, and the prevention of dampness in dwellings.

(2) *To prevent the spread of tuberculosis by means of meat or milk—*

(*a*) By encouraging the use of the tuberculin test, and the separation of the unhealthy from the healthy animals of Stock Owners and Cow-keepers.

(*b*) By the adoption of powers similar to those contained in the Glasgow Police Act.

(*c*) By continuing and possibly extending the present system of meat inspection by qualified Meat Inspectors in your public slaughter-houses.

(*d*) By the strict enforcement of cleanliness in these places, and in all cowsheds, dairies and milk shops.

(3) *The establishment of a public health laboratory, in conjunction with other public bodies, for the bacteriological diagnosis of the disease.*

BOROUGH HOSPITALS FOR INFECTIOUS DISEASES.

The following tables show the number of cases under treatment at the hospitals during the year, and the results in each case.

Dr. B. W. Broad, who was appointed Resident Medical Officer at the Hospital in January, 1896, continues to act in that capacity; and Miss Hay, who was appointed Matron in August of the same year, remains also in the same position.

I have to acknowledge the excellent services which have been rendered to the Institution by both these Officials and the Nursing Staff.

1898.	Males.		Females.		Total.
	Under 5 Years.	Over 5 Years.	Under 5 Years.	Over 5 Years.	
I.—Remaining in Hospital on 31st December, 1897 :—					
Scarlet Fever	6	19	9	17	51
Typhoid Fever	..	4	1	2	7
Diphtheria	..	..	1	2	3
Small Pox	..	1	..	..	1
Total	6	24	11	21	62
II.—Admitted during the year ending 31st December, 1898 :—					
Scarlet Fever	37	58	29	75	199
Typhoid Fever	3	19	..	15	37
Diphtheria	22	60	46	97	225
Small Pox	..	1	..	..	1
Total	62	138	75	187	462
Total under treatment in 1898	68	162	86	208	524
III —Of the above there were Discharged (*a*) Recovered :—					
Scarlet Fever	36	73	34	83	226
Typhoid Fever	1	16	1	12	30
Diphtheria	15	38	25	77	155
Small Pox	..	2	..	..	2
Total	52	129	60	172	413
(*b*) Died :—					
Scarlet Fever	3	1	3	1	8
Typhoid Fever	..	5	..	3	8
Diphtheria	5	1	13	7	26
Small Pox	..	..	..	..	..
Total	8	7	16	11	42
IV.—Remaining in Hospital on 31st December, 1898 :—					
Scarlet Fever	4	3	1	8	16
Typhoid Fever	2	2	..	2	6
Diphtheria	2	21	9	15	47
Small Pox	..	..	..	..	..
Total	8	26	10	25	69
Total under treatment in 1898	68	162	86	208	524

The proportion of deaths to cases under treatment during the year ending 31st December, 1898, was as follows :—

Disease.	Mortality per cent.
Scarlet Fever	3·2
Typhoid Fever	18·1
Diphtheria	11·4

Hospital expenditure for the year ending 31st March, 1898 :—

			£812	1	10
Salaries and Wages—Nurses and Staff					
Wages—Engineer, Fireman, Porter, and Gardener			298	11	8
Provisions and Stores			1,485	16	0
Drugs and Medical Sundries			79	11	0
Coal and Firewood			257	2	5
Insurances			32	9	0
Gas and Water			244	11	6
Rates and Taxes			4	19	0
Disinfectants			24	5	6
Clothing			9	1	6
Repairs and Maintenance of Building and Plant ...			136	14	0
Renovating, Colouring, &c., Walls and Ceilings ...			59	17	7
Gardening			24	3	1
Telephone Service			11	14	0
Printing, Advertising, and Stationery			19	2	7
Raising, Levelling, and Turfing Lawns			136	6	9
Maintenance of Road to Sanatorium			99	8	1
New Entrance Gates to Small Pox Ward			33	0	0
Wood Fencing—Small Pox Ward...			119	12	3
Haulage			30	10	6
Petty Expenses			11	16	1
			3,930	14	4
Less—Maintenance of Patients :—					
Cardiff Board of Guardians ...	39	17 4			
Llandaff and Dinas Powis R. D. C.	11	1 5			
			50	18	9
			£3,879	15	7

Dividing this amount by the number of patients under treatment during the year the average cost per head was £6 10s., and the average cost per week per patient was 18s. 5d.

SANITARY CONDITION OF THE DISTRICT AND SUMMARY OF WORK

PERFORMED BY THE OFFICERS OF THE

MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

The systematic house to house inspection of the district which was commenced in January, 1891, was continued throughout the year. The following tables show the nature of the work carried out by the various Inspectors, acting under the supervision of Mr. D. Vaughan, Chief Inspector of Nuisances, and I cannot speak too highly of the efficient manner in which he and his assistants have performed their difficult duties.

The erection of new houses, together with the construction of their drainage, is entirely under the control of the Borough Engineer and of the officers of his Department, who are ever ready to render any advice or assistance to your Health Department.

For the purposes of inspection, the Borough is divided into five districts as follows :—

		Estimated Population.	Name of District Inspector.
District No. 1 comprising	Canton Ward and Riverside Ward containing an area of 762 acres	39,438	T. W. Warren. Certifi. San. Inst.
,, No. 2 ,,	Adamsdown Ward and Splott Ward containing an area of 3,024 acres	30,606	W. Fisher. Certifi. San. Inst.
,, No. 3 ,,	Roath Ward and Park Ward containing an area of 1,299 acres	40,626	F. Glover. Certifi. San. Inst.
,, No. 4 ,,	Central Ward and Cathays Ward containing an area of 842 acres	30,235	S. Evans. Certifi. San. Inst.
,, No. 5 ,,	South Ward and Grangetown Ward containing an area of 2,424 acres	31,342	J. W. Holden. Certifi. San. Inst.

In addition to the District Inspectors there are also others as follows :—Two Inspectors for Infectious Diseases, one for Lodging Houses, one Inspector of Dairies, Cowsheds, and Milkshops, who also acts as Inspector under the Sale of Food and Drugs Act, one Inspector of Workshops, and one Inspector of Meat, who is a Veterinary Surgeon. Besides the above there are two Disinfectors.

The only proceedings during the year under the Housing of the Working Classes Act, 1890, were taken under Part II. of the Act, which deals with houses unfit for habitation. The Act provides that it shall be the duty of the Medical Officer of Health to represent to the Local Authority any house which appears to him to be in a state dangerous to health as to be unfit for habitation, and that the Local Authority shall, if they agree with the representations, take proceedings before Justices against the owner or occupier for closing the dwelling. Seven representations were made by the Medical Officer of Health in connection with houses in Garth Court. In addition to the official representations, which contained a detailed account of the sanitary defects in each house, the following report was presented to your Health Committee on the general condition of the Court :—

Garth Court contains seven houses, access to which is obtained through a covered passage leading from Garth Street. This passage is twenty-three feet long, nine feet high and seven feet wide. The houses open on to a small badly paved yard, which is common to the Court and to the "Duffryn Arms" public-house in Garth Street. In the yard is a urinal, belonging to the public-house, without water supply or proper apparatus, and which is in itself a nuisance. In the same yard and within four feet of the front of two of the houses in question, obstructing light and air, are four water closets without water supply and in an offensive condition, the foul air from which must of necessity enter the houses and be prejudicial to the health of the inmates.

The houses are all more or less damp from the defective condition of the roofs, walls and rain water shutes, and are for the most part dilapidated and in a bad state of repair.

The entire water-closet accommodation for the seven houses in the court consists of the four closets before mentioned. There is no separate water supply to any of the dwellings, the supply being obtained from a pipe in the yard. There are no sinks in any of the houses, and the slop water is discharged on to a channel in the centre of the court, without any means of flushing beyond the surface water.

The passage formed between the water-closets and the front of the houses, Nos. 6 and 7, leads to another part of the court, with a space of about nine feet intervening between the front of Nos. 4 and 5 and a wall 12 feet high, beyond this is a small space shut in on all sides, on to which Nos. 1, 2 and 3 open. The houses are all entirely closed in at the back, without any doors,

windows, or means of back ventilation. With the exception of one which contains three rooms, all the habitations in the court consist of two-roomed houses, and with one exception they are all occupied. The occupier of one of the houses, an Italian, carries on the business of an ice-cream manufacturer, under conditions inconsistent with the cleanliness or wholesomeness of the substance produced.

The total number of people living in Garth Court at the present time is sixteen, fourteen adults and two children. Quite recently illness has occurred in one of the houses opening on to the court, two fatal cases of diphtheria and some sore throats of an infective character.

In 1885 the inmates of Garth Court suffered from Typhus Fever, the origin of which may be attributed to the insanitary condition of the premises. The representations which accompany this report will give details of the condition of each house, and I have to advise that proceedings be taken against the owners for their closure, as directed by the Public Health Act, 1875, and the Housing of the Working Classes Act, 1890."

Application was made to the Justices at the Cardiff Police Court, and a closing order was obtained in the case of each house.

Subsequently the owner demolished a large part of the court, and thoroughly reconstructed the remainder; by so doing he placed four of the houses in a fairly good sanitary condition, and these have been reoccupied.

During the year the following report was presented by the Medical Officer of Health:—

"During the ordinary course of house to house inspection carried on by your Inspectors, my attention has been called to the numerous sanitary defects in that part of the Grangetown Ward known as Saltmead.

The defects as reported to me, seemed to be of such a nature and extent that I considered it desirable to make an inspection of this district myself, and to report the general results of this inspection.

The details in connection with each house will be presented as usual in the Report of the Inspector of Nuisances. The conditions to which I now beg to call your attention relate to Saltmead Road, Stoughton Street, Compton Street, Somerset Street, and Hereford Street. The damp condition of the houses and of the back yards attached to them is, in my opinion, the most serious defect in the district. Saltmead Road contains 104 houses, many of these are in a state of bad repair, and show distinct evidence of dampness on the internal surface of the wall.

The houses are built on a stiff clay, highly retentive of moisture, and some of them contain stagnant water under the floors.

They are constructed in such a way that moisture can be freely absorbed by the walls from the soil.

The ground on which they are built is not covered with any kind of cement, concrete, or impervious material.

There is, apparently, no damp course beneath the level of the lowest timbers, or in any situation preventing moisture from ascending the walls by capillary attraction.

Many of the rain water shutes do not efficiently carry off the rain from the walls, and the back yards are placed at such a level that surface drainage is impossible, and in wet weather large large stagnant pools of water are to be found on them. In many cases no sufficient ventilation is provided for between the ground surface of the house and the lowest floor; dry rot has therefore attacked the woodwork, and the air of the houses has been rendered unwholesome. On some of the premises the house drains have been found defective, and in nearly all cases the water-closets are without a flushing cistern.

The condition of the houses in the other streets named is very similar. The site upon which they stand is a low-lying damp one, and it is to be regretted that when they were built the modelled Bye-Laws of the Local Government Board were not in force, as most of the defects to which I have alluded are provided against in these Bye-Laws. In relation to buildings on low sites they provide that "A person shall not construct any foundation of a new building upon such site unless and until there shall have been properly deposited thereon a layer or layers of sound and suitable material sufficient to elevate such site to an adequate height and to form a stable and healthy substratum for the foundation." Provision in the Bye-Laws is also made that every person who shall erect a new domestic building shall cause the whole ground surface or site of such building to be properly asphalted or covered with a layer of good cement concrete rammed solid at least six inches thick. The note appended to this Bye-Law is as follows:—"The sanitary advantages of this clause are considerable. Residence on a damp subsoil as the foundation for a house has long been known to favour the prevalence of disease, such as Pulmonary Consumption, hence regulations to prevent the passage of dampness from the soil beneath houses into their interior are obviously desirable."

I enclose statistical information relating to the deaths from Pulmonary Consumption and from the chief zymotic diseases in the various Municipal wards since the year 1893, although they do not indicate any undue prevalence of Phthisis in the Grangetown Ward, it will be noticed that the zymotic rate has been relatively high in this ward, and I may add that amongst this class of disease Diphtheria is known to be associated with dampness of soil. I would also beg to call your attention to the fact that in this neighbourhood, between Clare Road and the River Taff, a large area of ground is now being laid out for building, the surface of which at the time of my visits was almost entirely covered with water.

In my opinion this land would form a very unsuitable and insanitary site for building unless the precautions which I have indicated above are adopted.

Death Rates from Phthisis and the Principal Zymotic Disease during the Five Years 1893-97.

Wards.	1893.		1894.		1895.		1896.		1897.	
	Phthisis.	Zymotic.	Phthisis.	Zymotic.	Phthisis.	Zymotic.	Phthisis.	Zymotic.	Phthisis.	Zymotic.
Borough of Cardiff ...	1·61	2·80	1·52	1·7	1·55	2·0	1·24	2·2	1·21	2·10
Central Ward ...	1·36	2·09	1·20	1·4	1·14	0·7	1·56	2·19	1·31	1·46
South ,, ...	1·17	1·89	2·23	1·1	2·26	1·8	1·37	7·6	1·21	2·14
Cathays ,, ...	1·59	3·24	0·81	1·3	0·74	3·0	1·02	1·27	0·77	1·85
Park ,, ...	0·84	2·86	1·33	1·1	1·27	1·6	0·57	1·94	0·82	1·49
Adamsdown ,, ...	1·39	2·26	1·39	0·8	1·19	1·1	1·20	1·25	1·38	1·82
Riverside ,, ...	3·43	2·47	3·21	1·4	3·73	1·8	3·56	1·94	0·90	1·92
Canton ,, ...	1·84	4·78	1·29	2·4	1·30	2·0	0·92	3·93	0·86	2·90
Roath ,, ...	0·86	3·39	0·77	1·4	1·25	2·6	0·53	1·09	0·72	1·19
Grangetown ,, ...	1·72	3·52	1·18	3·8	1·55	2·8	1·24	4·53	1·06	2·34
Splot ,, ...	1·27	2·55	1·10	1·3	0·31	2·3	0·59	1·19	0·97	2·19

Your Health Committee having considered the foregoing report, appointed a Sub-Committee to deal with the matter. The Sub-Committee, after visiting the district, reported as follows :—

Cardiff, December 1st, 1898.

To the Health and Port Sanitary Committee.

Gentlemen,

On the 25th ult. we visited the neighbourhood and inspected the properties, under the guidance of Dr. Walford and Inspector Vaughan, and as a result of our investigations we beg to tender to you the following report, viz.:—

Extract from Dr. Walford's Report of November 25th, 1898—"The damp condition of the houses and of the back yards attached to them is, in my opinion, the most serious defect in this district."

Upon closely inspecting certain houses in Saltmead Road, Compton Street and Somerset Street, the Medical Officer of Health's opinion was fully confirmed. (Previous to the visit of your Sub-Committee there had been heavy rains.) There are, however, several causes which have brought about the existing condition of these properties, which we hereafter enumerate, viz. :—

1. The houses are built on low-lying, marshy land, with a substratum of clay ; the roads in front of houses have been built up about 2 feet 6 inches to 3 feet above the levels of the back kitchens and gardens, and there is an entire absence of subsoil drainage.

In many instances the so-called gardens were neither more or less than "water bogs."

2. In several houses we found the yard gullies did not permit of the yards being drained into them.

3. The rain-water gutters and down pipes in many houses are choked up and are not fixed with a proper fall, which causes the water to overflow and deluge the walls.

4. Many of the houses are in a very dilapidated condition, and some of them are in so bad a state as to warrant the Health Committee in obtaining "Closing Orders" until the necessary repairs are carried out.

5. The houses are constructed without any pretence at putting in a "damp proof course," which, in this marshy district, we consider to be "indispensable."

6. The footways in some of the streets are paved with blue diamond bricks, and, owing to the settlement of a number of the houses an opening has occurred between the paving and the front walls of such houses, and the attention of the Borough Engineer should be called to this defect, and, if it is the work of the Corporation to remedy this, it should be accomplished without delay.

The question of defective shutes, dilapidated walls, etc., the Health Committee are dealing with, a large number of "Notices" having been already served, many of which are being readily complied with by the several property owners.

The question of the "water-logged" yards is one that can only be dealt with by raising the level of these yards. or by adopting a system of draining the subsoil, and, considering that the houses are now erected, it is a question as to whether or not the Corporation can compel the owners of these properties to now provide such subsoil drainage.

We venture to express the opinion that the evils could be very much mitigated if the owners could be prevailed upon to carry out a scheme for the drainage of the subsoil (such a scheme being thoroughly practicable) or of raising the surface so that the whole areas could drain into the existing drains.

The Health Committee can have no alternative in this matter if the owners fail to accept their recommendations, and either raise the levels or drain the subsoil of the low-lying part of the premises, than to apply to the Magistrates for closing orders and to declare such property as being unfit for human habitation.

Upon making enquiries at the houses visited by your Sub-Committee, we were not surprised to find some of the occupiers suffering from Rheumatism, as the front, back, and party walls were in several instances quite saturated with moisture and fungi.

We have no desire to exaggerate the evils complained of by Dr. Walford, and we wish to express to him our thanks for having called the attention of the Health Committee to them.

At the same time we would point out that while many houses are in a bad condition, our report must not be taken as applying to every house in the streets mentioned, as there are many houses which are kept in a good state of repair, and also a great deal of the dilapidations are mainly due to the unfair treatment of the property by careless and indifferent tenants.

But the existence of these defects which we have indicated warrant you as the Committee charged with the responsibility of maintaining the good health of the community, to respectfully urge upon the Corporation the immediate adoption of Bye-Laws which will prevent the possibility of erecting any houses upon similar low-lying lands unless the surface of such lands has been effectively raised and damp-proof courses provided.

Your Sub-Committee also visited the piece of land lying to the westward of the Taff River, and bounded by Clare Road, which is known as "Taff's Mead."

This land has been already laid out, streets having been formed and sewers laid, and is apparently ready for commencing building operations.

Knowing that a great portion of this land has been very extensively filled with town's refuse, we view with great concern the erection of dwelling houses upon this area.

We would respectfully suggest to the Public Works Committee that they should refuse (in the interests of the public health) to pass any plans for the erection of houses upon this land which do not provide for :—

(*a*) The effective drainage of the subsoil.

(*b*) The filling in (up to road level) of the ground at rear of such houses with good, clean gravel, or other suitable material.

(*c*) The concreting over of the whole of the site upon which the houses are to be built, and

(*d*) The provision of damp proof courses on each and every wall of the houses to be erected.

To give effect to the recommendations in this Report, we respectfully suggest that the Health Committee shall immediately put into force the powers they possess under the Public Health Act; and that our Sanitary Inspectors should carefully inspect the gullies and w.c.'s., and where considered doubtful the drain should be tested.

In presenting this Report to the Health Committee, the Sub-Committee desire to urge upon them and the Corporation the necessity of securing the adoption of Bye-Laws, which will prevent any possibility of the recurrence of a similar state of things.

(Signed) T. Windsor Jacobs (Chairman).
John Jenkins.
W. H. Allen.
W. S. Crossman."

HOUSE INSPECTION FOR THE YEAR 1898.

CENTRAL WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Dumfries Place	24	7	...	...	1	...	1	6	2
Ebenezer Street	13	3	...	...	...	...	...	13	6
Castle Court ...	6	...	...	...	...	...	...	6	4
Frederick Street	41	5	...	...	...	...	...	37	35
Bridge Street ...	88	17	...	2	15	3	...	49	21
Jenkins' Court ...	6	...	...	...	...	...	...	6	6
Canal Bank ...	5	...	...	...	...	...	...	...	5
Carpenters' Arms Court ...	7	...	...	...	...	...	...	7	7
Kingston Court	10	...	...	...	...	...	...	...	10
Matthews' Court	9	...	...	...	...	...	...	9	9
Jonothan Court ...	4	...	...	...	...	...	...	4	4
Gallivers' Court ...	2	...	...	...	...	...	...	2	2
Spring Garden Court ...	5	...	...	...	...	...	...	5	5
Union Street	82	10	1	...	5	...	...	78	16
Little Union Street ...	5	...	...	...	...	...	...	4	...
Trice Court	3	1	...	...	...	...	...	3	1
Friends' Place	3	...	...	...	...	...	...	3	...

SOUTH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Penarth Road	54	...	3	...	2	...	...	11	11
Crawshay Street ...	11	...	...	...	...	...	...	...	...
Percy Street	26	...	...	...	...	...	...	12	9
Harpur Street	15	...	...	...	...	...	...	4	2
Tresillian Terrace... ...	41	6	...	1	10	...	...	15	5
Trade Street	2	...	...	...	...	...	...	...	...
Harrowby Street	44	3	...	...	18	...	...	38	29
Old Sea Lock	4	1	...	...	..	...	...	4	1
Old Sea Lock Court ...	6	...	3	...	...	...	...	5	3
Dumballs Road	3	1	...	...	...	...	...	...	...

CATHAYS WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Salisbury Road	79	14	...	...	3	...	...	60	13
George Street	114	21	4	...	11	...	...	102	9
Harriett Street	48	11	...	...	9	...	...	45	5
Rhymney Terrace ...	15	...	...	...	...	...	...	14	1
Richard Street	120	30	...	...	21	...	..	114	7
Cathays Terrace	17	2	...	...	...	...	...	17	6
Mundy Place	28	8	...	...	3	...	...	26	6
Darran Street	23	11	...	...	1	...	...	23	11

PARK WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Elm Street	50	19	...	...	5	...	...	46	9
Castle Road	22	7	1	...	...	...	...	20	4
Oxford Street ...	46	20	...	...	1	...	...	43	8
Southey Street	14	4	...	...	...	...	...	6	...
Woodland Place	10	7	...	...	...	...	...	5	...
Cowper Street	6	...	...	...	...	...	...	1	...
Wordsworth Avenue ...	34	9	...	...	2	...	...	7	5
Cyfarthfa Street	101	12	...	...	4	...	...	88	18
Treharris Street ...	43	...	...	...	...	...	...	39	6
Vere Street	18	11	...	...	...	...	..	16	1

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Adam Street	27	...	...	...	...	...	...	23	20
Pendoylan Street...	13	1	...	...	...	...	...	11	6
Roland Street ...	34	11	...	...	6	...	...	31	13
North William Street ...	35	12	...	...	6	...	...	35	15
Adamsdown Square ...	27	...	4	...	3	...	...	23	20
Tyndall Street	16	...	...	...	...	...	...	15	9
Ellen Street	36	3	...	...	2	...	...	34	23
Kyte Street	5	...	...	...	...	...	...	...	5
Thomas Court	3	2	1	...	...	...	...	3	1
Buzzard Street	32	6	...	...	5	...	...	32	15
Rosemary Street	6	...	...	...	...	...	...	6	5
Sandon Place	38	7	...	...	7	...	...	38	16
Duffryn Street	23	5	...	...	3	...	...	22	7
Garth Court	11	...	...	...	...	...	...	6	2
Garth Street	21	1	...	...	1	...	...	19	8
Davis Street	44	10	...	...	11	...	...	53	17
Taff Street	19	2	...	...	1	...	...	19	9
Windsor Road	35	3	...	...	2	...	...	25	13
Morgan Street	12	2	...	...	3	...	...	12	4
Godfrey Street	54	10	...	...	3	...	...	40	16
Ivor Street	30	9	...	...	5	...	...	30	14
Victoria Street	30	14	...	...	5	...	...	30	17

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Halket Street	44	9	...	...	10	...	...	19	...
Green Street	14	1	...	...	...	...	...	9	6
Pontcanna Terrace ...	12	...	...	...	...	...	...	12	1
Mark Street	16	2	...	...	4	...	...	14	2
Brook Street	36	...	...	...	12	...	...	35	2
Ann Street	25	...	...	...	10	...	...	25	5
King's Road	150	16	1	...	21	...	...	91	35

CANTON WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Edmunds Buildings ...	10	...	2	...	8	...	...	10	...
Albert Street	124	23	...	...	9	...	...	119	42
Picton Place	20	...	1	...	6	...	...	20	5
Loftus Street	36	5	...	...	2	...	...	29	23
Gray Street	59	3	2	...	7	...	...	46	39
Springfield Place... ...	25	2	1	...	4	...	...	25	10

ROATH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Elm Street	27	9	1	...	1	...	...	20	6
Teal Street	5	4	...	...	...	...	...	5	2
Grouse Street	10	7	...	...	...	...	...	10	1
Snipe Street	13	7	...	...	...	...	...	12	1
Woodcock Street	10	2	...	...	...	...	...	10	...
Cyfarthfa Street	21	...	...	...	...	...	...	14	2
Helen Street	59	6	2	...	2	...	...	40	7

GRANGETOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Penarth Road	163	13	3	...	32	...	1	79	72
Saltmead Road	105	4	2	...	...	...	...	94	26
Compton Street	47	1	1	1	...	...	...	47	20
Stoughton Street	42	1	2	...	...	...	...	42	17
Somerset Street	52	1	1	...	...	...	...	27	18
Hereford Street	57	1	1	1	...	...	...	56	20
Allerton Street	36	5	...	...	...	...	...	30	29
Cornwall Road	35	2	2	4	...	...	...	35	26
Court Road	92	2	1	3	...	...	...	85	80
Thomas Street	45	4	...	...	14	...	...	39	28
North Street	9	4	...	...	3	...	...	5	3
Havelock Place	4	2	...	...	2	...	...	4	2
Franklin Street	6	1	...	...	3	...	...	6	4
Madras Street	27	...	...	...	12	...	...	24	15
Lucknow Street	12	...	...	...	5	...	...	10	7
Bishop Street	19	...	...	...	...	...	...	19	10

SPLOTT WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	W.C. Pans and Syphons Defective.	Defective Stench Traps permitting an escape of Sewer Gas.	Scullery Sinks connected direct with Drain.	Inside Closets not ventilated.	Closets not supplied with Water.	Other Nuisances.
Ordell Street	73	10	1	...	4	...	...	47	24

INSPECTION OF FACTORIES AND WORKSHOPS.

UNDER THE FACTORY AND WORKSHOP ACTS, 1878—95, AND THE SHOP HOURS ACT, 1892.

During the year a large number of workshops have been inspected. The results of these inspections are given in the annexed Tables:—

Nature of Workshop.	No. on Register.	Number of Inspections.
Tailors	73	314
Dressmakers	89	279
Bootmakers	38	143
Bakers	106	625
Tinsmiths	3	16
Milliners	33	131
Flour Packers	1	10
Coachbuilders	5	21
Plumbers	8	22
Carpenters and Joiners ...	8	25

INSPECTION OF FACTORIES AND WORKSHOPS—*Continued.*

Nature of Workshop.	No. on Register.	Number of Inspections.
Blacksmiths	7	54
Upholsterers	9	36
Paper Bag Makers ...	2	11
Watchmakers	3	4
Pipe Manufacturers ...	1	6
Electro Platers... ...	1	3
Laundries	6	48
Sugar Boilers	4	13
Chairmakers	—	4
Printers	3	54
Oatmeal Packers ...	1	10
Cycle Works	5	14
Waterproof Manufacturers...	2	8
Saw Mills	—	4
Bottling Stores ...	8	12
Box Makers	1	4
Oilskin Manufacturers ...	1	3
India Rubber Merchants ...	1	7
Cabinet Makers ...	7	26
Blue Manufacturers ...	1	8
File Works	1	3
Jam Works	1	4
Boat Builders	1	7
Wagon Works... ...	—	16
Pianoforte Manufacturers ...	3	5
Boilermakers	—	5
Foundries	—	16
Packers	2	9
Basket Makers... ...	1	4
Sewing Machine Makers ...	1	3
Saddlers	6	18
Electricians	1	4
Coopers	1	2
Curriers	2	4
Toy Makers	1	6
Photographers	2	4
Plaster Moulders ...	1	2
Firewood Cutters ...	2	7
Umbrella Makers ...	—	4
Engineers	2	4
	455	2042

Notices of New Workshops from Inspector of Factories under Factory Act, 1891, Sec. 26, Sub. 2, Factory Act, 1895, Sec. 41 = 20.

Notices from Inspector of Factories *re* Sanitary Defects in Workshops, Sec. 4, Factory and Workshop Act, 1878 = 13.

Notices sent by Sanitary Authority to Inspector of Factories under Sec. 3, Factory and Workshop Act, 1891 = 17.

Nuisance Abated.	Carpenters.	Saddlers.	Waggon Works.	Paper Hangers.	Tinsmiths.	Opticians.	Picture-frame Makers.	Cabinet Makers.	Printers.	Coopers.	Bootmakers.	Laundries.	Painters.	Dressmakers.	Bakers.	Tailors.	Milliners.
Water closets cleansed and repaired	...	...	...	1	...	1	1	...	1	...	3	...	...	3	1	5	...
Water closets supplied with water	1	...	...	1	...	...	2	1	...	1	1	...	...	1	7	4	...
Drains trapped and repaired	...	...	...	...	...	...	...	..	...	...	...	1	...	5	10	7	...
Defective drains	2	2	2	...	...	...	...	2	...	...	1	...	...	1	10	6	...
Limewashed	...	...	...	...	1	...	1	2	...	...	4	1	...	1	38	1	...
Repaired	...	...	...	...	1	..	...	...	...	...	...	1	...	...	3	3	...
Overcrowded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
W.C. accommodation provided	...	...	1	...	...	...	...	...	...	...	...	1	...	1	2	1	...
Accumulations removed ...	...	...	...	...	...	...	...	4	...	...	...	2	...	...	11	2	...
Total ...	3	2	3	2	2	1	4	9	1	1	9	6	...	12	82	31	...

SHOP HOURS ACT, 1892-5.

Nature of Shops Inspected.	Number of Inspections.	Number of Shops in which young persons are employed.	Infringement of Act.	Proceedings taken. Result.
Hotels	25	12	...	...
Waterproof Manufacturers... ...	29	23	...	...
Tobacconists	34	22	...	...
Confectioners	39	21	...	...
Stationers	32	23	...	...
Furnishers	15	14	...	...
Clothiers	37	26	...	...
Drapers	164	135	...	...
Hairdressers	75	45	...	...
Hatters and Hosiers	57	44	...	...
Grocers	460	375	2	10/- and costs and 1 cautioned.
Restaurants	43	22	...	...
Boot and Shoe Shops	152	119	...	...
Fishmongers	40	27	...	...
Fruiterers	49	37	...	...
Chemists	146	128	1	5/- and costs.
Ironmongers	80	61	...	...
Butchers	163	124	...	...
Pawnbrokers	31	20	...	...
Fancy Toy Shops	26	22	...	...
Tailors	50	40	...	...
Tea Merchants	64	53	...	...
Newsagents	13	9	...	...
Total	1,824	1,402	3	...

INSPECTION OF COMMON LODGING HOUSES.—These houses are regulated by the provisions of the Public Health Act, 1875. Section 77 requires all Common Lodging Houses to be registered, and Section 80 empowers the Sanitary Authority to make Bye-laws.

(1) For fixing and from time to time varying the number of lodgers who may be received into a Common Lodging House, and for the separation of the sexes therein.

(2) For promoting cleanliness and ventilation in such houses.

(3) For the giving of notices and the taking precautions in the case of any infectious diseases; and

(4) Generally for the well ordering of such houses.

In the year 1891, your Authority adopted Bye-laws which correspond closely with the "Model Bye-laws" of the Local Government Board.

COMMON LODGING HOUSES.

Total number on register	73
Registered rooms	324
Number of persons certified to accommodate	1,045
Day inspections	1,019
Night „	75
W.Cs. cleansed and repaired	108
„ supplied with water	28
Additional W.C. accommodation provided	9

COMMON LODGING HOUSES—*Continued.*

Drains trapped and repaired	73
Soil pipes ventilated	2
Special ventilation provided to rooms	37
Lime-washed	187
Over-crowded	—
Yards paved	48
Accumulations removed	36
Infectious disease discovered	1
Registered	—

SEAMEN'S LODGING HOUSES.

Total number of applications	241
„ „ persons licensed	102
„ „ houses, the occupiers of which have been licensed ...	104
Maximum number of lodgers authorised to be received in the above ...	943
Number of day inspections	1,674
„ night „	66
Number of houses in which sanitary improvements have been effected ...	159
NATURE OF SANITARY DEFECTS :—	
Defective water-closets	89
Insufficient W.C. accommodation	—
Defective drains	96
Defective paving in yards	83
Defective bedroom ventilation	77
Stables without manure pits	—
Houses with walls and roofs out of repair	168
Infectious disease discovered	6

INSPECTION OF SLAUGHTER-HOUSES AND MARKETS.

Mr. Moir, M.R.C.V.S., your Inspector of Meat, reports to me, that he has made daily inspections of the Public Abbatoirs at Roath and Canton.

The following is the result of his inspections :—

	Canton Abbatoir	Roath Abbatoir.
Beasts slaughtered	701	6,422
Sheep „	5,933	36,880
Calves „	333	2,871
Pigs „	3,643	17,958
	10,610	64,131

The following is the amount and description of food seized and dealt with under the 116-119 Sections of the Public Health Act :—

Beef, 6942 lbs. Mutton, 106 lbs. Pork, 716 lbs. Fish, 1,633 lbs.
Game, 212 lbs. Veal. 320 lbs.

The nature of the diseases detected in each case was as follows :—

Tuberculosis	9 Cows.
„	2 Pigs.
Erysipelas	1 Pig.
Injuries	1 Cow.
„	3 Sheep.
„	4 Pigs.
„	4 Calves.

INSPECTION OF SLAUGHTER-HOUSES AND MARKETS—*Continued.*

Enteritis	1 Pig.
Pneumonia	1 ,,
Dropsy	1 Sheep.
Purpura	2 Pigs.
Inflamation of Stomach and Intestines ..	1 Pig.
Pyæmia	2 Pigs.
Acute Enteritis	1 Pig.
Strangulated Hernia	1 Pig.

SALE OF FOOD AND DRUGS ACT.

The following articles were analysed during the year by Mr. Thomas Hughes, F.I.C. F.C.S., Borough Analyst :—

Samples obtained.	Number of Samples.	Number of Genuine Samples.	Number of Samples Adulterated.	Fines.
Milk	356	351	5	60/- and costs; 40/- and costs; 5/- and costs; and 2 dismissed.
Butter	92	91	1	Dismissed.
Coffee	36	35	1	20/- and costs.
Flour	6	6	—	
Bread	18	18	—	
Cake	16	16	—	
Demerara Sugar ..	—	—	—	
Margarine ..	2	2	—	10/- and costs; 1/- and costs. (Exposing for sale without label.)
Tea	25	25	—	
Cheese	6	6	—	
Ginger	6	6	—	
Condensed Milk ..	6	6	—	
Sep. Condensed Milk	7	7	—	
S. Spirits of Nitre ..	6	6	—	
Ice Cream ..	12	12	—	
Pepper	6	6	—	
Total ..	600	593	7	

MAGISTERIAL PROCEEDINGS.

	No. of Cases.	Fines. £ s. d.
Proceedings under Sale of Food and Drugs Act ...	9	6 16 0
Proceedings under Seamen's Bye-Laws	10	...
Proceedings under Common Lodging Houses Bye-Laws ...	2	0 2 0
Proceedings under Cowshed and Milkshops Order ...	1	0 5 0
Proceedings under Housing of the Working Classes Act	11	...
Proceedings under Shop Hours Act	3	0 15 0
Proceedings under Factory and Workshops Act ...	1	...
Proceedings under Public Health Act	4	0 10 0
		£8 8 0

Report of Mr. D. VAUGHAN, Chief Inspector of Nuisances, and Inspector of Canal Boats, for the Year 1898.

NUISANCES :—

Nuisances inspected	3,651
Notices issued	3,294
Nuisances abated without legal proceedings	3,278
,, ,, with ,, ...	16
Animals kept so as to be a nuisance	20
Injurious and foul accumulations	610
Nuisance from Smoke	12
Cesspools and Privies cleansed	4
,, abolished	—
Defective drainage	1,121
Drains unstopped and cleansed	745
,, trapped and repaired	281
,, tested	666
,, found defective	370
Foul and offensive W.C.s. cleansed	137
Defective apparatus to water closets repaired	40
Water laid on to water closets	10
,, ,, urinals	2
,, ,, dwelling houses	13
Offensive W.C.s. abolished	—
Overcrowding notices	—
Dilapidated houses repaired	539
Dirty houses and workshops cleansed and lime-washed	158
Additional W.C. accommodation provided	1

DISINFECTION :—

Houses disinfected	1,205
Articles of bedding and clothing disinfected	15,644
,, ,, ,, destroyed	50

OFFENSIVE TRADES :—

Premises visited	1,177

SLAUGHTER HOUSES AND MARKETS :—

Visits paid to slaughter houses	324
,, ,, markets	360
Articles destroyed unfit for food—Beef, 6,942 lbs.; Fish, 1,633 lbs.; Pork, 716 lbs.; [Veal, 80 lbs.; Game, 212 lbs.; Strawberries, 75 Tubs; Mutton, 106 lbs.	
Butchers' and provision shops inspected	1,638

COWSHEDS AND MILKSHOPS :—

Number of Cowkeepers on register	39
,, Milksellers ,, ...	613
Total ...	652
Number of Cowkeepers registered during the year	2
,, Milksellers ,, ,, ,, ...	115
Total ...	117
Number of visits paid to cowsheds	250
,, ,, milkshops	710
Notices served	145
Total ...	1,105

COWSHEDS, MILKSHOPS AND DAIRIES.

Particulars of Inspection.	Cowsheds.	Milkshops.
Total number inspected	230	710
Found in good condition	169	560
Impure water supply	...	...
Water closets, sinks, or drains defective	...	6
Receptacles for manure erected	...	4
Yards badly paved and accumulations of rubbish	1	9
Dairies or milkshops used for purposes incompatible with proper preservation of milk	...	...
Infectious disease amongst persons employed	...	5
Cowsheds with defective lighting, cleansing, ventilation of air space, and lime washing	59	66
Cowshed overcrowded	1	...

CANAL BOATS.

Number of boats on register	47
,, inspections	108
,, boats found in good condition	25
,, ,, ,, with wrong register number	7
,, ,, ,, ,, defective ventilation	11
,, ,, ,, ,, change of masters	...
,, notices, verbal or otherwise, served and complied with ...	22
Water casks not properly provided	4
Certificates cancelled...	3

APPENDIX.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1898.

MONTH.	Attached Thermometer.	Barometer. Inches.	TEMPERATURE IN SHADE.							HYGROMETER.			RAINFALL.				DEATH RATE Per 1,000.	
			Maximum.	Minimum.	Mean of Maximum.	Mean of Minimum.	Mean of Month.	Earth. 1 foot Mean.	Earth. 4 feet Mean.	Dry Bulb.	Wet Bulb.	Relative Humidity.	Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which 0·01 or more rain fell.	All Causes.	Seven Chief Zymotic Diseases.
January ...	54	30·300	55·8	32·5	48·3	39·8	44·0	45·8	45·3	43·3	42·5	94	1·96	·48	5th	10	13·1	1·9
February ...	51	30·605	52·5	24·5	46·5	36·2	41·3	43·5	47·6	41·3	39·0	81	1·71	·22	18th	17	18·0	2·6
March ...	50	29·902	53·5	23·5	47·7	33·1	41·1	41·0	44·3	40·1	37·8	81	1·12	·53	6th	9	25·4	2·5
April ...	55	29·897	63·5	26·8	55·3	37·9	46·6	48·8	46·8	49·4	44·9	70	1·40	·28	11th	10	14·0	1·7
May ...	57	29·308	62·5	31·2	56·5	43·3	49·9	50·0	48·2	53·7	48·7	70	4·80	·80	11th	20	11·7	1·6
June ...	61	29·981	74·5	37·8	65·0	47·2	55·9	59·8	55·9	57·3	53·3	76	5·06	·90	4th	14	14·8	1·6
July ...	63	30·116	77·8	38·8	69·9	51·3	60·6	64·4	61·0	62·5	57·2	70	·40	·20	1st	2	11·1	1·2
August ...	67	30·000	81·2	44·5	70·3	52·8	61·5	63·1	61·7	63·1	58·4	74	3·48	·67	6th	10	16·6	3·6
September ...	64	30·104	82·2	36·8	68·3	49·3	58·8	10·9	59·9	54·8	61·8	60	1·94	1·38	29th	4	23·4	6·1
October ...	60	29·731	66·8	33·5	58·0	47·4	52·7	54·6	56·7	52·7	50·8	87	7·30	1·13	17th	18	13·3	1·9
November ...	60	28·474	56·3	25·8	51·4	40·1	45·7	47·9	53·2	45·8	44·2	89	7·46	1·39	23rd	16	12·6	1·3
December ...	58	29·992	56·3	33·5	51·9	41·5	46·7	45·7	49·2	46·4	44·9	89	5·44	1·03	6th	17	17·6	2·1

Mean Temperature of each Month in the Year, as compared with that of the previous Five Years.

Month.	1891	1892	1893	1894	1895	Mean of 5 years	1896	1897	1898
January . ..	35°8	36°2	36°8	39°4	35°5	36°3	41°6	35°9	44°0
February.. ..	41°6	38°6	42°2	43°0	29°3	38°9	40°8	43°5	41°3
March	40°8	35°9	47°1	44°4	41°6	41°9	45°9	44°6	41°1
April	45°5	43°2	53°0	47°0	47°9	47°3	48°0	46°3	46°6
May	50°9	50°7	57°3	49°7	54°4	52°6	52°9	49°1	49°9
June	60°2	54°5	62°4	57°1	58°5	58°5	61°4	59°5	55°9
July	60°2	64°1	63°6	60°3	60°0	61°6	61°4	62°7	60°6
August	56°4	61°3	64°8	57°5	59°0	59°8	58°6	60°9	61°5
September ..	57°0	56°0	57°1	53°2	59°7	56°6	56°8	54°4	58°8
October	48°8	42°9	51°0	50°3	46°7	47°9	46°2	51°2	52°7
November ..	41°7	43°8	43°2	47°2	47°2	44°6	39°9	46°1	45°7
December ..	40°4	35°8	42°1	41°8	40°0	40°0	40°0	42°5	46°7

The following Table illustrates the Daily Direction of Wind throughout the Year 1898.

Direction of Wind.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1898.
N.	1	2	3	—	1	3	2	—	—	—	—	1	13
N.E.	8	4	14	6	10	6	6	6	8	14	13	1	96
N.W.	2	3	4	—	—	—	9	2	3	2	4	5	34
N.N.E.	—	—	—	—	—	—	—	—	—	—	—	—	—
N.N.W.	—	—	—	—	—	—	—	—	—	—	—	—	—
S.	3	1	—	—	—	—	1	1	—	—	—	1	7
S.E.	4	2	1	8	7	3	1	5	3	1	7	8	50
S.W. .. .	7	7	2	5	7	9	6	11	7	9	2	11	83
S.S.E. . ..	—	—	—	—	—	—	—	—	—	—	—	—	—
S.S.W.	—	—	—	—	—	—	—	—	—	—	—	—	—
E.	—	—	1	4	1	1	3	2	5	2	1	—	20
W.	6	9	6	7	5	8	3	4	4	3	3	4	62

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH DURING THE TWENTY-THREE YEARS, 1876—1898.

YEAR.	JANUARY.				FEBRUARY.				MARCH.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	12	0·68	2nd	5·33	22	0·90	14th	3·92	22	0·54	9th
1877	5·77	27	0·72	3rd	2·79	20	0·42	11th	2·66	21	0·55	23rd
1878	1·73	17	0·36	27th	3·07	16	0·87	27th	1·25	8	0·40	28th
1879	5·95	10	1·30	1st	5·95	23	0·86	20th	1·14	14	0·32	23rd
1880	0·87	11	0·42	13th	3·88	22	1·06	18th	1·90	12	0·75	2nd
1881	0·92	12	0·23	26th	4·81	15	1·12	9th	3·88	16	0·68	3rd
1882	3·19	13	0·82	2nd	2·56	15	0·60	28th	2·26	19	0·32	1st
1883	5·75	25	1.11	24th	3·73	20	0·65	10th	0·60	10	0·12	19th
1884	6·03	21	0·99	31st	4·40	22	1·35	17th	3·39	16	1·27	3rd
1885	3·71	20	0·58	9th	3·65	22	0·67	26th	1·87	16	0·53	29th
1886	5·03	23	0·91	30th	1·32	11	0·62	28th	3·97	13	0·68	20th
1887	2·76	15	0·73	7th	1·45	6	0·73	3rd	3·21	10	1·16	15th
1888	1·70	12	0·49	1st	1·07	9	1·09	2nd	4·62	15	0·76	24th
1889	1·58	10	0·58	9th	2·00	16	0·64	10th	3·89	16	1·17	8th
1890	5·21	24	0·61	26th	0·55	7	0·22	19th	1·52	14	0·28	24th
1891	3·58	13	1·26	23rd	0·05	2	0·03	2nd	1·76	16	0·31	15th
1892	2·10	15	0·70	16th	2·38	19	0·58	20th	1·18	6	0·48	15th
1893	2·38	19	0·94	12th	6·04	22	0·95	25th	0·31	6	0·14	2nd
1894	3·20	23	0·44	19th	3·68	20	0·78	17th	3·37	13	0·82	1st
1895	3·88	20	0·71	19th	0·17	4	0·08	24th	3·92	21	0·85	27th
1896	0·64	6	0·40	24th	1·39	9	0·80	13th	4·47	24	0·54	7th
1897	3·78	17	0·50	31st	5·73	21	0·70	4th	6·29	19	0·90	21st
1898	1·96	10	0·48	10th	1·71	17	0·22	18th	1·12	9	0·53	6th

TABLE SHEWING RAINFALL AT CARDIFF IN EACH MONTH DURING THE TWENTY-THREE YEARS, 1876—1898.

YEAR.	APRIL.				MAY.				JUNE.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	17	0·38	28th	0·23	4	0·12	24th	1·91	9	0·52	15th
1877	2·90	20	0·52	20th	2·47	14	0·99	16th	1·48	12	0·41	1st
1878	4·10	21	0·75	9th	4·32	24	0·71	16th	3·68	15	1·65	16th
1879	2·64	17	0·73	19th	2·85	15	0·88	29th	6·48	23	1·64	30th
1880	1·98	13	0·40	5th	1·45	11	0·46	26th	2·38	19	0·53	17th
1881	1·44	7	0·60	13th	2·62	10	1·73	17th	3·59	18	0·63	16th
1882	5·68	20	0·60	12th	2·72	13	0·59	22nd	4·28	20	0·82	5th
1883	0·67	7	0·28	26th	1·90	12	0·70	11th	1·81	17	1·16	27th
1884	1·56	11	0·43	3rd	2·37	14	0·50	2nd	1·92	9	1·11	28th
1885	2·52	16	0·67	1st	3·86	27	0·71	19th	2·61	13	1·04	23rd
1886	2·98	15	0·73	7th	6·38	19	1·52	31st	0·70	7	0·28	1st
1887	1·63	10	0·45	26th	1·94	14	0·63	19th	0·60	4	0·51	2nd
1888	1·48	13	0·30	17th	1·69	8	0·40	17th	3·69	17	0·74	17th
1889	3·54	18	0·71	30th	2·51	16	0·38	31st	0·58	6	0·41	1st
1890	1·80	14	0·34	6th	1·99	13	0·66	9th	2·46	17	0·40	10th
1891	2·02	11	0·40	2nd	3·41	17	0·75	21st	2·47	12	1·30	24th
1892	1·27	9	0·43	20th	1·35	11	0·66	27th	1·93	10	0·61	28th
1893	0·29	5	0·16	1st	2·80	12	0·72	19th	0·67	9	0·23	22nd
1894	2·05	15	0·41	23rd	2·18	15	0·50	15th	2·43	16	0·64	3rd
1895	2·08	12	0·55	24th	0·50	3	0·41	31st	1·15	9	0·32	30th
1896	2·83	14	0·80	15th	0·22	3	0·14	13th	2·48	11	1·00	7th
1897	8·18	20	0·90	13th	2·29	8	0·50	29th	5·02	11	0·90	8th
1898	1·40	10	0·28	11th	4·80	20	0·80	11th	5·06	14	0·90	4th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-THREE YEARS, 1876—1898.

YEAR.	JULY.				AUGUST.				SEPTEMBER.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	10	0·41	6th	6·06	27	2·72	19th	7·08	19	1·28	30th
1877	4 94	18	1·27	14th	5·70	21	1·14	27th	3·25	8	1·39	27th
1878	2·01	9	0·78	23rd	10·82	24	3·64	15th	3·21	9	1·28	22nd
1879	4·00	21	0·81	19th	8·12	22	1·34	27th	4·85	17	0·69	7th
1880	6·64	23	0·95	17th	0·77	7	0·27	2nd	3·67	15	0·77	17th
1881	2·62	15	0·77	30th	6·94	20	1·45	22nd	2·09	13	0·48	22nd
1882	5 77	24	0·84	6th	6·75	16	1·14	22nd	3·94	17	0·79	28th
1883	3·56	21	0·82	20th	2·09	16	0·73	8th	6·14	19	1·53	23rd
1884	4·05	20	0·94	23rd	2·21	9	0·84	31st	1·96	15	0·64	21st
1885	0·72	6	0·31	18th	2·74	12	1·07	6th	6·51	23	1·76	10th
1886	4·85	17	0·71	29th	1·68	9	0·44	9th	4·08	14	0·75	4th
1887	1·51	13	0·85	26th	2·88	11	1·02	16th	4·07	17	1·24	1st
1888	6·83	25	1·16	7th	3·50	17	0·74	29th	1·21	8	0·52	27th
1889	3·85	12	1·16	9th	3·90	15	0·65	2nd	2·09	9	1·53	23rd
1890	3·57	19	0·73	17th	3·95	20	0·95	9th	1·57	11	0·50	17th
1891	2·21	17	0 36	2nd	7·19	22	1·10	26th	2·43	19	0·51	3rd
1892	3·83	9	1·50	12th	4·64	16	1·62	27th	3·95	14	1·38	29th
1893	3·88	17	0·80	10th	3·05	14	0·52	20th	2·03	15	0·89	28th
1894	4 22	20	0·97	24th	4·55	18	1·55	25th	2·22	10	0·80	22nd
1895	4·71	15	0·94	23rd	4·08	17	1·19	12th	1·17	10	0·40	6th
1896	1·14	8	0·35	24th	2·89	15	0·84	19th	7·34	23	1·10	17th
1897	2·51	8	0·80	6th	5·42	16	1·30	30th	6·37	13	1·38	29th
1898	0 40	2	0·20	1st	3 48	10	0·67	6th	1·94	4	1·38	29th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-THREE YEARS, 1876—1898.

YEAR.	OCTOBER.				NOVEMBER.				DECEMBER.				YEAR.
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall per annum. Inches.
1876	3·84	17	0·62	16th	5·27	18	0·75	12th	7·13	23	0·80	17th	46·62
1877	4·89	16	1·15	24th	6·54	25	1·06	24th	3·40	25	0·88	28th	46·79
1878	5·76	18	1·09	23rd	5·76	13	0·84	9th	2·70	10	0·75	28th	45·71
1879	1·51	12	0·35	19th	0·43	8	0·18	20th	2·11	9	0·79	31st	44·79
1880	4·94	15	1·45	25th	3·67	15	0·90	15th	6·70	20	1·09	14th	38·85
1881	3·23	13	0·72	22nd	4·98	23	0·65	26th	4·50	15	1·77	7th	41·62
1882	8·33	23	1·64	23rd	6·26	21	0·90	7th	4·86	25	0·73	31st	56·60
1883	4·23	17	0·61	15th	6·38	24	0·80	21st	1·92	17	0·57	10th	38·78
1884	1·01	17	0·35	8th	2·12	16	0·47	30th	5·87	20	0·68	5th	36·89
1885	5·59	22	1·60	22nd	5·47	16	1·11	27th	1·74	17	0·05	5th	40·99
1886	5·09	21	0·87	15th	5·39	21	1·03	5th	6·64	21	1·33	26th	48·11
1887	2·80	13	1·14	29th	3·48	21	0·69	3rd	3·46	20	0·75	12th	29·79
1888	1·74	11	0·52	28th	7·04	26	1·13	12th	3·61	16	0·88	27th	38·18
1889	3·77	25	0·48	8th	1·87	12	0·75	24th	2·40	14	0·80	21st	31·38
1890	1·92	16	0·41	7th	3·89	20	0·67	6th	0·80	4	0·33	18th	29·23
1891	7·12	22	1·32	18th	3·91	15	0·74	28th	6·19	19	0·78	30th	42·34
1892	2·64	15	0·51	27th	3·25	18	0·66	4th	2·23	12	0·62	1st	22·63
1893	5·98	21	1·29	4th	2·30	13	0·58	1st	4·18	19	0·94	12th	33·91
1894	4·91	14	1·05	24th	4·72	20	0·83	13th	3·66	20	0·51	17th	41·19
1895	3·67	15	0·94	3rd	4·21	23	0·60	5th	3·45	31	0·48	17th	32·64
1896	4·65	19	0·74	5th	0·96	5	0·60	15th	6·41	22	0·72	4th	35·42
1897	3·32	7	0·90	2nd	1·82	7	0·63	27th	6·06	18	1·19	7th	56·80
1898	7·30	18	1·13	17th	7·46	16	1·39	23rd	5·44	17	1·03	6th	42·07

TABLE OF DEATHS DURING THE YEAR 1898, IN THE CARDIFF URBAN SANITARY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

[A]

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																				
										Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.				Cholera.	Erysipelas	Measles.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Influenza.	Injuries.	All other Diseases.	TOTAL.
														Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.												
	At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.																							
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Registration Sub-Districts.																														
Central, Cardiff	837	274	75	25	30	249	184	Under 5	..	..	20	..	..	..	..	..	..	..	..	25	15	31	..	6	68	2	.	10	177	354
								5 upwards	..	..	8	..	..	3	..	..	..	..	1	1	..	14	4	43	78	48	6	16	261	483
East "	714	288	100	32	28	210	56	Under 5	..	...	19	..	..	..	..	..	..	..	..	18	19	22	..	6	70	3	..	5	226	388
								5 upwards	..	...	9	..	..	5	..	..	..	..	..	..	3	13	..	2	63	39	.	6	126	326
West "	750	290	142	33	39	200	46	Under 5	..	..	16	..	..	..	..	..	..	..	..	6	9	51	..	6	67	2	..	2	273	432
								5 upwards	..	..	31	..	..	1	..	..	3	..	1	..	..	16	2	44	46	30	6	12	126	318
Union ..	194	13	5	1	10	103	62	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	14	18
								5 upwards	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	33	32	18	2	7	83	176
Infirmary ..	83	5	5	8	11	53	1	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	10
								5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	6	3	..	23	63	73
Seamen's Hospital ..	4	..	..	..	..	4	..	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
								5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	1	4
Sanatorium .	45	..	24	16	2	3	..	Under 5	..	6	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24
								5 upwards	..	2	8	..	..	7	..	..	..	..	..	..	..	..	..	1	..	..	1	..	2	21
Cardiff Urban Sanitary District	2627	870	351	115	120	822	349	Under 5	..	6	73	..	..	..	..	..	..	..	..	49	43	106	..	18	205	7	..	19	695	1221
								5 upwards	..	2	56	..	..	17	..	..	3	..	2	1	..	43	9	185	220	138	15	66	644	1406

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH, DURING THE YEAR 1898, IN THE CARDIFF URBAN SANITARY DISTRICT, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

[B]

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES. Last Census.	POPULATION AT ALL AGES. Estimated to middle of 1898.	Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH. Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS. Typhus.	FEVERS. Enteric or Typhoid.	FEVERS. Continued.	FEVERS. Relapsing.	FEVERS. Puerperal.	Cholera.	Erysipelas.			NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL. Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS. Typhus.	FEVERS. Enteric or Typhoid.	FEVERS. Continued.	FEVERS. Relapsing.	FEVERS. Puerperal.	Cholera.	Erysipelas.		
(a)	(b)	(c)	(d)	(e)	1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
Registration Sub-Districts. Central Cardiff	53,824	55,539	1,610	Under 5	..	20	67	2	..	..	..	..	..	..	4	..	..	..	6	15	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	47	134	1	..	23	3	..	3	..	3	..	..	..	22	28	..	..	5	..	..	..	..	..	..	..
East ,,	35,294	57,281	1,821	Under 5	..	35	88	9	..	..	..	..	..	..	1	..	..	..	30	33	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	67	205	..	..	29	..	..	7	..	38	..	..	..	54	43	..	..	11	..	..	..	..	..	..	..
West ,,	39,797	59,427	2,009	Under 5	..	51	125	7	..	1	..	..	..	..	5	..	..	..	28	27	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	109	321	1	..	15	3	..	5	..	41	..	..	..	56	57	..	..	3	..	..	..	..	..	..	..
Sanatorium ..	..	..	..	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Union ..	..	.	80	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	..	..	..	..	7	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Seamen's Hospital ..	..	..	..	Under 5	..	..	..	..	..	..	..	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Infirmary ..	..	..	..	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	3	..	..	..	3	..	..	..	..	1	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..
Cardiff Urban Sanitary District	128,915	177,770	5,520	Under 5	..	106	280	18	..	1	..	..	..	..	10	..	..	..	64	75	..	..	..	..	..	..	..	..	..	..
				5 upwards	..	226	660	2	..	79	6	..	18	..	123	..	..	..	135	128	..	..	19	..	..	..	..	..	..	..

CARDIFF URBAN SANITARY DISTRICT.

ESTIMATED POPULATION, 1898—177,770.

DEATHS REGISTERED AT AGES FROM THE SEVERAL CAUSES. YEAR 1898.

CAUSES OF DEATH.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 55		55 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		TOTAL.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
(CLASSES.)																																				
I. Specific Febrile or Zymotic Diseases	157	182	20	13	3	4	3	2	3	4	1	4	2	5	2	5	6	1	1	1	2	2	3	2	2	4	1	6	3	3	3	2	2	211	241	2·542
II. Parasitic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
III. Dietic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	6	1	0·039
IV. Constitutional	57	40	9	8	10	9	12	13	13	11	14	16	16	21	15	17	20	23	14	11	17	10	15	14	10	11	13	8	7	5	5	2	1	1	248	220	2·632
V. Developmental	62	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	5	1	5	3	8	16	12	9	15	22	109	91	1·113
VI. Local	255	227	9	11	2	5	10	10	12	12	14	22	12	21	22	26	32	25	30	28	39	40	31	34	42	26	38	37	16	27	13	20	10	10	587	575	6·536
VII. Violence	7	12	4	1	2	2	4	..	8	..	4	..	5	1	5	1	4	1	6	1	3	1	..	2	3	1	2	1	1	1	1	..	1	..	60	25	0·478
VIII. Ill-defined and not specified causes	86	96	1	..	1	1	..	1	1	1	1	2	1	4	3	1	6	4	3	2	3	5	2	5	3	1	5	4	2	3	2	3	..	..	120	133	1·423
Total	624	597	43	33	18	21	29	26	37	28	34	44	36	52	47	43	68	54	56	43	67	58	52	57	67	44	64	59	34	55	36	37	29	35	1341	1286	14·7

CLASS 1.—Specific Febrile or Zymotic Diseases.

MIASMATIC DISEASES.																																				
Small-pox { Vaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox { Unvaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox { No Statement	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chickenpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	25	21	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	28	22	0·281
Epidemic Rose Rash	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	3	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	0·045
Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	1	1	..	..	..	..	..	..	1	..	1	2	..	1	..	3	..	..	..	..	1	1	1	4	1	5	..	2	2	1	1	1	..	..	15	18	0·174
Whooping-cough	12	30	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	30	0·241
Mumps	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	42	54	16	12	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	60	69	0·725
Cerebro-spinal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Simple and ill-defined Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	1	..	3	2	2	2	2	..	1	1	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	7	0·095
Other Miasmatic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

DEATHS REGISTERED—*Continued.*

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS I.—*Continued.*																																			
Diarrhœal Diseases.																																			
Simple Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery ..	69	68	..	..	..	..	..	..	..	..	..	..	2	..	1	..	1	1	..	..	..	1	..	..	..	..	1	..	1	1	2	1	..	..	73	76	0·838
Malarial Diseases.																																			
Remittent Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zoogenous Diseases.																																			
Hydrophobia ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Splenic Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cowpox and other effects of Vaccination ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Venereal Diseases.																																			
Syphillis ..	4	3	..	..	..	..	..	..	1	..	..	..	1	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	5	0·067
Gonorrhœa, Stricture of Urethra ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	0·005
Septic Diseases.																																			
Phagedæna ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1	1	0·011
Pyæmia, Septicæmia ..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	6	0·039
Puerperal Fever ..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0·016
Total ..	157	182	20	13	3	4	3	2	3	4	1	4	2	5	2	3	6	1	1	1	2	2	3	2	2	4	1	6	..	3	3	3	2	2	211	241	2·542
CLASS II.—Parasitic Diseases.																																			
Thrush ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases from Vegetable Parasites ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydatid Disease ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases from Animal Parasites ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS III.—Dietic Diseases.																																					
Starvation, Want of Breast-milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scurvey	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Intemp. { Chronic Alcoholism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	6	1	0·039
Intemp. { Delirium Tremens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	6	1	0·039
CLASS IV.—Constitutional Diseases.																																					
Rheumatic Fever, Rheumatism of Heart	..	1	1	..	..	1	1	1	1	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	0·050
Rheumatism	..	..	..	..	1	3	..	..	1	..	1	..	..	..	..	1	..	..	..	2	..	1	1	..	1	1	..	1	..	1	..	..	..	..	..	..	16	5	0·084
Gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rickets	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	0·011
Cancer	..	..	1	1	..	..	..	1	..	3	1	1	3	1	6	4	10	3	3	7	6	6	10	8	9	9	8	3	5	3	1	1	1	..	50	62	0·646
Tabes Mesenterica	..	6	4	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6	0·067
Tubercular Meningitis (Acute Hydrocephalus)	..	28	25	7	3	5	2	2	1	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43	34	0·433
Phthisis	..	12	6	1	2	1	4	7	6	11	7	9	13	13	16	14	10	13	12	10	7	7	4	6	2	2	1	3	..	3	..	..	1	..	..	..	112	91	1·141
Other forms of Tuberculosis, Scrofula	..	8	2	..	1	..	2	2	3	1	1	1	2	1	1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	16	13	0·157
Purpura, Hæmorrhagic Diathesis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anæmia, Chlorosis, Leucocythæmia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0·016
Diabetes Mellitus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	4	..	0·022
Other Constitutional Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	57	40	9	8	10	9	12	13	13	11	14	16	16	21	15	17	20	23	14	11	17	10	15	14	10	11	13	8	7	5	5	2	1	1	248	220	2·632
CLASS V.—Developmental Diseases.																																					
Premature Birth	..	56	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	56	34	0·560
Atelectasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cyanosis	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	0·022
Spina Bifida	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	0·016
Imperforate Anus	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	0·005
Cleft Palate, Harelip	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Other Congenital Defects	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	5	0·033
Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	5	..	5	3	8	15	12	9	15	21	..	..	..	47	48	0·534
Total	..	62	40	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	5	1	5	3	8	16	12	9	15	22	..	..	..	109	91	1·113

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS VI.—Local.																																				
1.—Diseases of Nervous System.																																				
Inflammation of the Brain or its Membranes	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Apoplexy	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	. .	. .	. .	. .	3	1	. .	4	2	1	1	5	1	3	3	2	1	3	3	2	. .	1	16	22	0·214
Paralysis	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	. .	. .	1	. .	1	2	. .	1	2	. .	1	. .	. .	5	6	0·061
Softening of Brain	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .	1	. .	. .	. .	. .	. .	1	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	3	0·027
Hemiplegia, Brain Paralysis	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	1	3	. .	2	2	. .	2	3	1	. .	1	. .	1	. .	. .	8	10	0·101
Paralysis, Agitans	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	1	0·011
Insanity, General Paralysis of Insane	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	0·005
Chorea	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Epilepsy	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	. .	. .	. .	. .	. .	1	1	1	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	4	5	0·050
Convulsions	. .	64	47	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	64	47	0·623
Laryngismus Stridulus	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	0·011
Idiopathic Tetanus	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	0·011
Myelitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	1	0·005
Paraplegia, Diseases of Spinal Cord	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	0·011
Other Diseases of Nervous System	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	2	. .	1	. .	1	3	5	0·045
2.—Diseases of Organs of Special Sense.																																				
Otitis Otorrhœa	. .	. .	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	2	0·011
Epistaxis and Dis. of Nose	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	0·005
Ophthalmia and Dis. of Eye	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
3.—Diseases of Circulatory System.																																				
Endocarditis, Valvular Diseases	. .	2	5	. .	1	. .	1	2	2	2	. .	5	4	3	2	4	5	2	5	8	7	8	10	10	3	9	6	13	4	3	6	1	4	4	4	76	69	0·815
Pericarditis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Hypertrophy of Heart	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	0·005
Angina Pectoris	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	0·005
Syncope	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	. .	. .	. .	1	. .	. .	. .	1	. .	. .	. .	1	. .	. .	1	. .	. .	4	2	0·033
Aneurism	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	1	2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	5	. .	0·027
Senile Gangrene	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	1	. .	. .	. .	. .	. .	. .	2	. .	. .	1	1	. .	1	. .	. .	7	2	0·039
Embolism, Thrombosis	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	. .	. .	. .	. .	2	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1	. .	. .	. .	. .	1	4	0·027
Phlebitis	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Varicose Veins	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Other Diseases	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS VI.—*Continued.*																																					
4.—Diseases of Respiratory System.																																					
Laryngitis	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	3	.	0·016
Croup	5	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	2	0·045
Other Diseases of Larynx and Trachea	3	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	4	2	0·033
Emphysema, Asthma	.	.	.	1	.	.	.	.	.	.	.	1	.	1	.	2	.	1	.	.	.	1	.	2	.	1	.	1	.	.	.	.	.	.	9	2	0·061
Bronchitis	41	41	1	1	.	.	1	.	1	.	1	1	2	3	1	3	2	1	.	6	8	4	4	7	5	2	19	1	4	3	6	1	1	83	95	1·000
Pneumonia	52	59	1	5	.	1	2	1	5	2	2	3	4	4	6	4	8	1	7	7	4	2	5	7	5	4	2	2	1	8	3	.	3	1	110	111	1·230
Pleurisy	.	.	.	.	.	.	.	.	.	.	.	.	1	2	.	.	1	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	2	4	0·033
Other Diseases of Respiratory System	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	3	1	0·022
5.—Diseases of Digestive System.																																					
Stomatitis	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	0·016
Dentition	13	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13	13	0·146
Sore Throat, Quinsy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dyspepsia	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1	2	0·016
Hæmatemesis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	0·011
Melæna	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Diseases of Stomach	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	0·011
Gastritis	13	5	.	.	.	.	.	.	1	1	.	1	.	.	.	.	.	.	.	.	1	1	1	.	.	2	.	.	.	.	.	.	.	1	16	11	0·151
Enteritis	49	33	2	.	.	1	1	1	1	.	1	.	1	.	.	.	.	.	.	2	1	1	1	.	.	2	1	.	.	1	.	.	.	.	57	42	0·556
Ulceration of Intestine	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	0·011
Ileus, Obstruction of Intestine	.	2	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	1	1	.	.	.	1	.	.	.	.	.	5	4	0·050
Stricture or Strangulation of Intestine	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0·005
Intussusception of Intestine	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	0·016
Hernia	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	2	.	.	.	1	1	.	.	.	.	1	.	.	.	1	.	.	.	3	5	0·045
Fistula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Peritonitis	2	2	1	1	1	1	.	.	1	2	.	2	.	1	.	2	1	.	.	3	1	.	.	.	1	.	.	.	.	.	.	.	.	.	11	11	0·123
Ascites	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jaundice	1	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	2	3	0·027
Gallstones	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	1	1	0·011
Hepatitis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1	1	0·011
Cirhosis of Liver	.	.	.	1	.	.	.	.	.	.	1	.	.	1	3	.	2	.	1	1	1	1	1	1	1	.	1	.	.	.	.	.	.	.	13	4	0·095
Other Diseases of Liver	.	1	.	.	.	.	.	.	.	.	1	1	.	.	.	.	2	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	4	2	0·033
Other Diseases of Digestive System	1	2	.	1	.	.	1	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.	.	1	.	4	6	0·056

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS VI.—*Continued.*																																				
6.—Diseases of Lymphatic System and Ductless Glands.																																				
Diseases of Lymphatic System	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Disease of Spleen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Bronchocle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Addison's Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7.—Diseases of Urinary System.																																				
Acute Nephritis	..	2	1	..	..	..	..	..	..	..	1	..	..	..	3	1	2	2	1	1	1	1	2	2	3	1	..	..	..	..	..	..	..	..	15	9	0·135
Bright's Disease	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	1	1	3	2	1	1	5	..	1	..	..	..	..	..	..	..	..	10	9	0·106
Uræmia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	0·016
Suppression of Urine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Calculus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hæmaturia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Bladder and of Prostate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	0·011
Other Diseases of Urinary System	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	2	3	0·027
8.—Diseases of Organs of Generation.																																				
Metritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ovarian Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Uterus and Vagina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Disorders of Menstruation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pelvic Abscess	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	0·016
Perineal Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Testes, Penis, Scrotum, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9.—Diseases of Organs of Parturition.																																				
Childbirth	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	0·033
Abortion, Miscarriage	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Puerperal Mania	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Convulsions	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0·005
Placenta Prævia, Flooding	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	0·016
Phlegmasia Dolens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Accidents of Childbirth	..	..	..	..	..	..	..	1	..	..	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	0·027

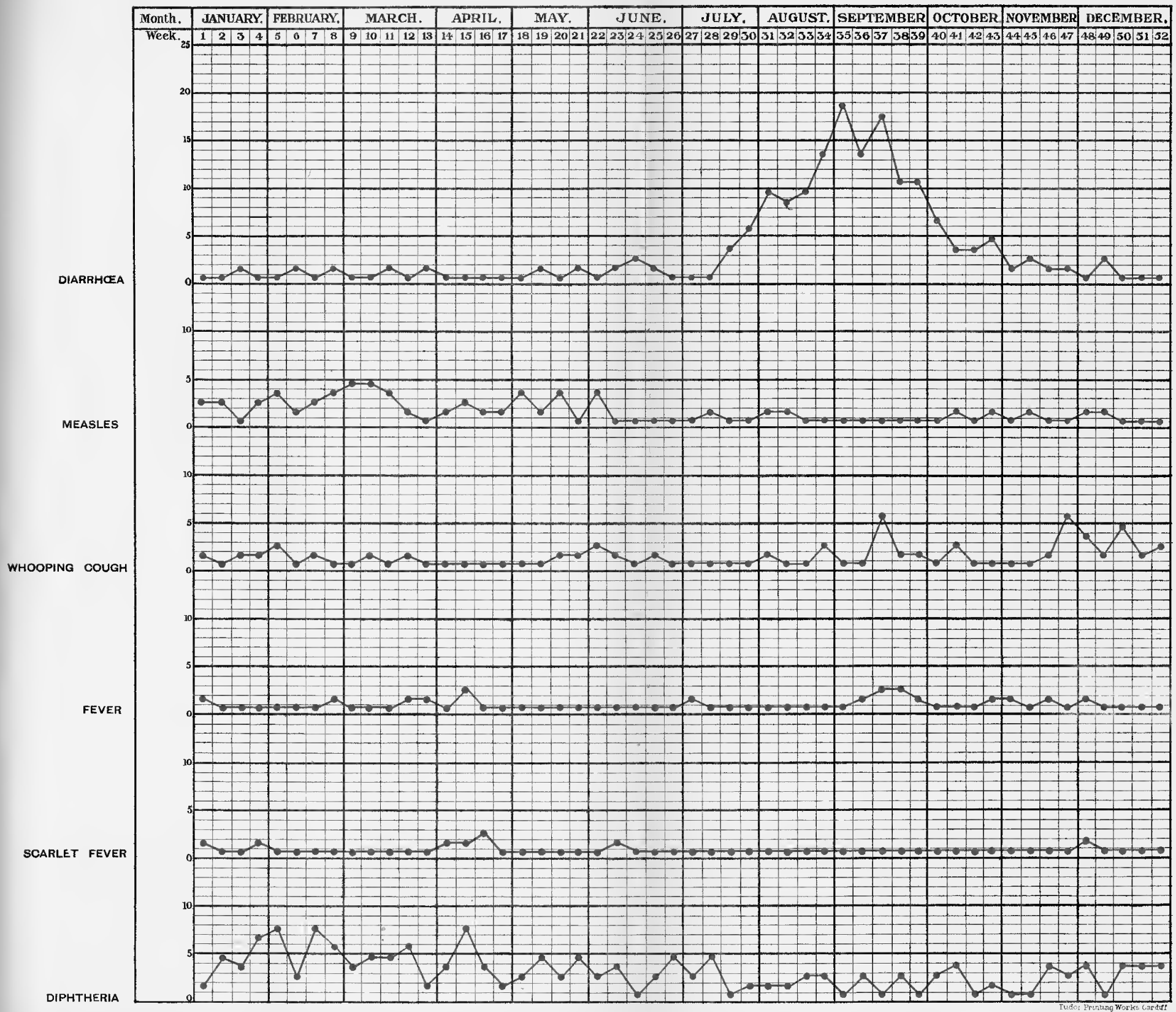
Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS VI.—*Continued.*																																				
10.—Diseases of Organs of Locomotion.																																				
Caries, Necrosis			1						1				1						1														1	3	0·022
Arthritis, Ostitis, Periostitis			1																						1								2		0·011
Other Diseases of Organs of Locomotion															1			1																2	0·011
11.—Diseases of Integumentary System.																																				
Carbuncle																	1				1												2		0·011
Phlegmon, Cellulitis										1																								1	0·005
Lupus											1																						1		0·005
Ulcer, Bedsore		1					1		1								1			1														5	0·027
Eczema		1																																1	0·005
Pemphigus																																				
Other Diseases of Integumentary System																																				
Total	255	227	9	11	2	5	10	10	12	12	14	22	12	21	22	20	32	25	30	28	39	40	31	34	42	26	38	37	16	27	13	20	10	10	587	575	6·536
CLASS VII.—Violence.																																				
Accident or Negligence.																																				
Fractures, Contusions	3	1				2	3		4		3		3		2		2		1		2		1	3	1				1		1		28	5	0·185
Gunshot Wounds																																				
Cut, Stab																			1														1		0·005
Burn, Scald	2	4	2															1												1			4	6	0·056
Poison	1			1	1														2							1							5	1	0·033
Drowning		1	2		1		1		3						2			1		1	1												11	2	0·073
Suffocation	1	2													1																		2	2	0·022
Otherwise		2										1	1							1				1			1						1	6	0·039
Homicide.																																				
Murder, Manslaughter		2								1					1																		1	3	0·022
Wounds in Battle																																				

DEATHS REGISTERED—*Continued.*

Causes of Death.	0 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		75 to 80		80 & upwards		Total.		Death Rate per 1,000.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
CLASS VII.—*Continued.*																																				
Suicide.																																				
Gunshot Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	0·005
Cut, Stab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	0·005
Poison	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	0·011
Drowning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hanging	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3	..	0·016
Otherwise	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Execution.																																				
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	7	12	4	1	2	2	4	..	8	..	4	..	5	1	5	1	4	1	6	1	3	1	..	2	3	1	2	1	1	1	..	1	..	60	25	0·478
CLASS VIII.—Ill-defined and not Specified Causes.																																				
Dropsy ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	0·005
Debility, Atrophy, Inanition ..	79	77	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	1	..	1	..	..	1	..	..	1	..	1	..	..	83	82	0·928
Mortification ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tumour ..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	1	..	1	1	..	..	1	..	..	2	1	..	..	..	..	..	..	..	..	..	4	6	0·056
Abscess ..	3	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	0·033
Hæmorrhage ..	..	..	..	..	1	..	..	1	1	..	1	..	..	..	1	..	1	1	..	2	..	1	1	2	1	..	2	3	1	1	2	1	..	..	10	14	0·136
Sudden (Cause unascertained) ..	1	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	1	1	..	..	..	..	1	1	..	..	..	1	..	6	9	0·084
Other ill-defined and not specified ..	3	13	..	..	..	..	..	..	..	..	..	..	1	2	2	..	4	1	..	..	1	1	..	..	..	..	1	1	..	1	1	..	..	..	13	19	0·180
Total ..	86	96	1	..	1	1	..	1	1	1	1	2	1	4	3	1	6	4	3	2	3	5	2	5	3	1	5	4	2	3	2	3	..	..	120	133	1·423

1898.

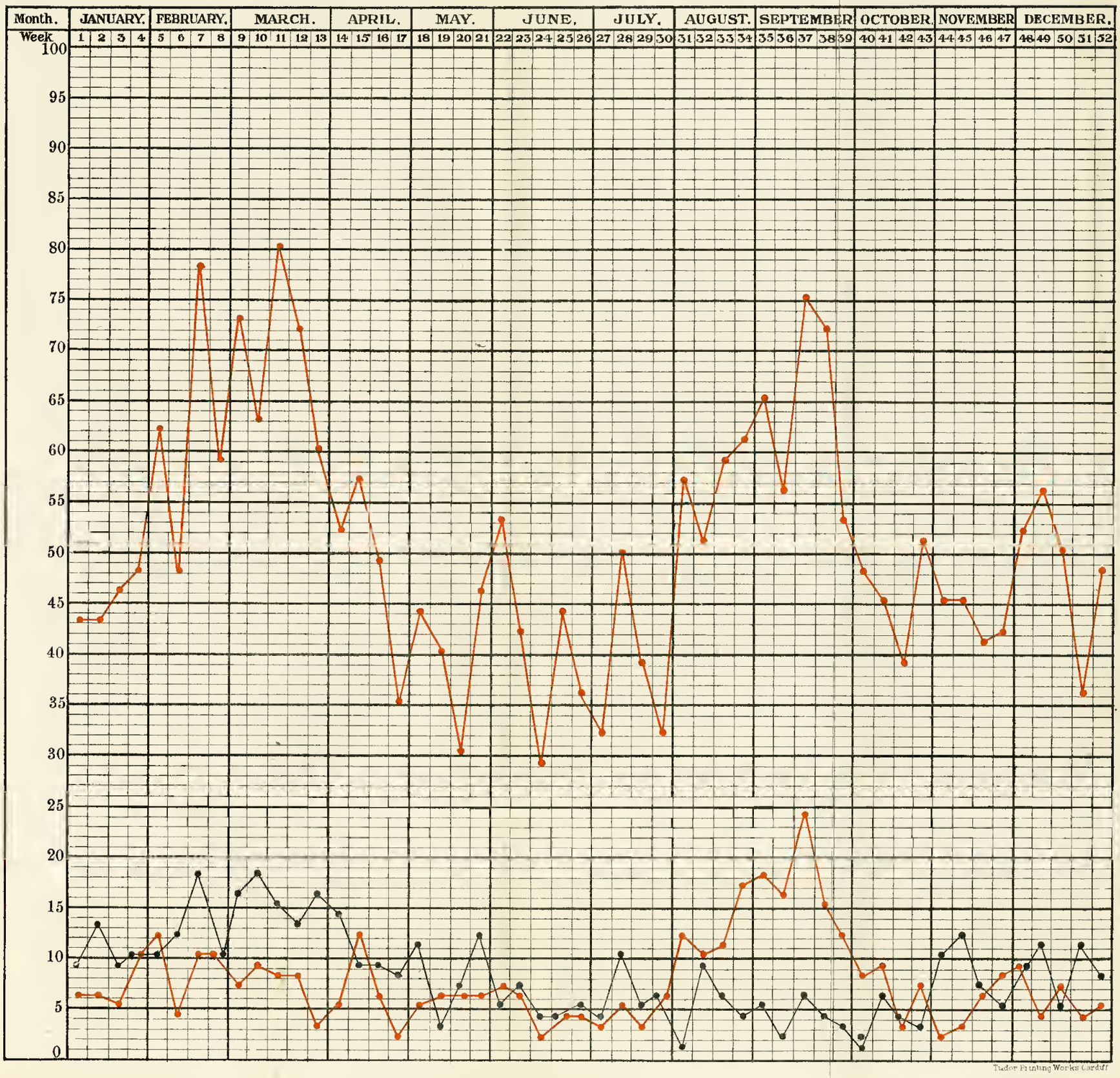
Deaths from Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhœa.



Tudor Printing Works Cardiff

1898.

Deaths from All Causes, and the Seven Chief Zymotic Diseases.



Tudor Printing Works Cardiff

Chart shewing death-rate per 1,000 of the population from Zymotic Diseases during the Years 1878—1898.

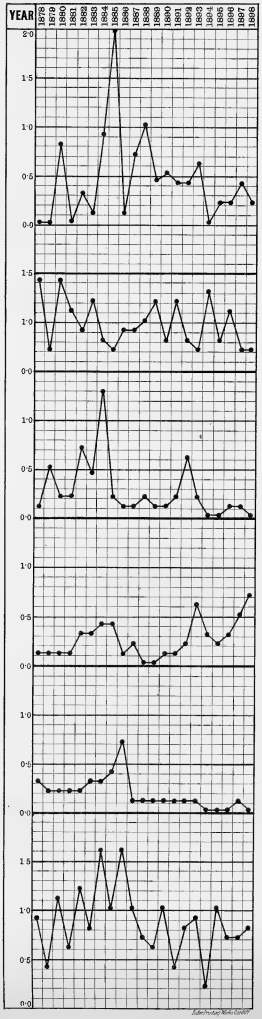


Chart shewing the influence of temperature on the Diarrhœa death-rate in Cardiff, during the Summer quarters of the Years 1872—1898.